# Warrego Energy EP512 Pty Ltd

## EP512 Yuna Drilling Program

## Environment Plan Summary

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| | | |

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**Acronyms**

| Acronym | Description |
|---|---|
| AER | Annual Environmental Report |
| AH Act | Aboriginal Heritage Act 1972 (WA) |
| ALARP | As Low As Reasonably Practicable |
| APPEA | Australian Petroleum Production and Exploration Association |
| BC Act | Biodiversity Conservation Act 2016 (WA) |
| BOM | Bureau of Meteorology |
| Bonn Convention | Convention on the Conservation of Migratory Species of Wild Animals |
| CAMBA | China-Australia Migratory Bird Agreement |
| CoP | Commissioner of Police |
| DBCA | Department of Biodiversity, Conservation and Attractions (WA) |
| DCCEEW | Department of Climate Change, Energy, Environment and Water |
| DFES | Department of Fire and Emergency Services |
| DEMIRS | Department of Energy, Mines, Industry Regulation and Safety |
| DPIRD | Department of Primary Industries and Regional Development |
| DPLH | Department of Planning, Lands and Heritage |
| DWER | Department of Water and Environmental Regulation |
| EP | Environment Plan |
| EP Act | Environmental Protection Act 1986 (WA) |
| EPA | Environmental Protection Authority (WA) |
| EPBC Act | Environment Protection and Biodiversity Act 1999 (Cth) |
| EPS | Environmental Plan Summary |
| ERP | Emergency Response Plan |
| ESA | Environmentally Sensitive Area |
| FNA | File Notation Area |
| HAZID | Hazard Identification |
| HPA | Heritage Protection Agreement |
| HSEQ | Health, Safety, Environment and Quality |
| JAMBA | Japan-Australia Migratory Bird Agreement |
| JHA | Job Hazard Analysis |
| LGA | Local Government Authority |
| mbgl | Metres below ground level |
| NGO | Non-Government Organisation |
| MNES | Matters of National Environmental Significance |
| MoU | Memorandum of Understanding |
| NGER Act | National Greenhouse and Energy Reporting Act 2007 (Cth) |
| NTP | Native Title Party |
| NVCP | Native Vegetation Clearing Permit |
| OSCAR | Online System for Comprehensive Activity Reporting |
| OSCP | Oil Spill Contingency Plan |
| PGER Act | Petroleum and Geothermal Energy Resources Act 1969 (WA) |
| PWS | Parks and Wildlife Services |
| RIWI Act | Resources in Water and Irrigation Act 1914 (WA) |
| ROKAMBA | Republic of Korea-Australia Migratory Bird Agreement |



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| Acronym | Description |
|---|---|
| RTO | Reverse Take-Over |
| SFAIRP | So Far As Is Reasonably Practicable |
| SPAT | Species Profile and Threats Database |
| TEC | Threatened Ecological Community |
| UCL | Unallocated Crown Land |
| YMAC | Yamatji Marlpa Aboriginal Corporation |
| YPSHA | Yamatji Proponent Standard Heritage Agreement |
| YSRC | Yamatji South Regional Corporation |



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# 1 Overview

Hancock Energy (PBN) Pty Ltd (**Hancock Energy**) is an Australian energy exploration and production company based in Perth, Western Australia (WA) and is a wholly owned (100%) subsidiary of Hancock Energy (PB) Pty Ltd (Hancock Energy PB). The Permit Holder for EP512 is Warrego Energy EP512 Pty Ltd (**Warrego Energy**), with Warrego Energy being a wholly owned (100%) subsidiary of Hancock Energy PB.

Hancock Energy on behalf of Warrego Energy proposes to drill one (1) exploration well and one (1) stratigraphic well in Exploration Permit EP 512 (referred herein as **the Project**), Yuna West-1 (YW-1) and Yuna East-1 (YE-1) (respectively) located 112 km and 116 km south-east from Kalbarri. The YW-1 well is located in the Shire of Northampton, and the YE-1 well is located in the Shire of Chapman Valley.

## 1.1 SCOPE

The EP has been developed to identify the key risks and potential environmental impacts during the well programs and detailed management and mitigation strategies to minimise these environmental impacts during the Project activities, where they are not already addressed in the EP.

The EP applies to all the activities associated with the Project, which includes but is not limited to:

- Site preparation activities;
- Drilling operations (including drilling, completion, side tracking, well intervention, suspension or decommissioning of the well);
- Well test operations;
- Project Decommissioning and Reinstatement operations; and
- Care and Maintenance (C&M) operations.

The EP has been drafted with specific notice to Regulation 11(4) of the *Petroleum and Geothermal Energy Resources (Environment) Regulations 2012*, with Hancock Energy seeking a staged approach and approvals strategy to the drilling activities.

These stages are:

- **Stage 1**: Drilling the Yuna East-1 well, in which all civil works, exploration and stratigraphic drilling and supporting activities related to the Yuna East-1 well are to be undertaken; and
- **Stage 2**: Drilling the Yuna West-1 well, in which all civil works, exploration drilling and supporting activities related to the Yuna West-1 well are to be undertaken.

The delineation of the stages pursuant of Regulation 11(4) is due to the difference in risk profile, schedule, and sensitivities at the two well sites. Additionally, the staged approach afforded by one EP is intended to reduce the administrative burden on both DEMIRS and Hancock Energy.



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## 1.2 INSTRUMENT HOLDER

Regulation 37 of the PGER(E)R 2012 require that an Operator is responsible for the overall management and operation of the activity at all times. The instrument holders are required to notify the Minister of the nominated Operator. Table 1-1 and Table 1-2 summarises the respective details for the Instrument holder and Nominated Operator, who will perform and be responsible for the operational activities. .

**Table 1-1: Details of Permit Holder**

| RESOURCE AUTHORITY | REGISTERED HOLDERS | CONTACT DETAILS |
|---|---|---|
| Exploration Permit EP 512 | Warrego Energy EP512 Pty Ltd | Level 6, 216 St George's Tce, Perth WA 6000<br>Phone: +61 8 6118 1615<br>Email: office@warregoenergy.com |

**Table 1-2: Details for Notification of Operator**

| NOMINATED OPERATOR CONTACT DETAILS | |
|---|---|
| Name | Austen Fresson |
| Position / Company | Hancock Energy (PBN) Pty Ltd |
| Address | 28-42 Ventnor Avenue, West Perth WA, 6005 |
| Telephone number | 0481 275 885 |
| Email address | stakeholder@hancockenergy.com.au |

## 1.3 HSEQ CORPORATE POLICY

Hancock Energy is committed to preventing and minimising any adverse environmental impacts from its operations.

Hancock Energy has a Health, Safety, Environment and Quality Policy (HSEQ Policy) that outlines the policy objectives and targets and provides a framework for activities. The HSEQ Policy is provided to all personnel including employees, contractors and subcontractors.

"*Tread lightly on the land*" has been a central tenet of Hancock Energy from its creation and remains a core value for the Company.

A copy of the Hancock Energy HSEQ Corporate Policy is provided in Attachment 1.



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# 2 Implementation Strategy

To meet the requirements of Regulation 15(1) of the PGER(E)R, this Section describes the implementation strategy - the systems, practices, and procedures used to ensure that the environmental impacts and risks of the activities are continuously reduced to ALARP, and the environmental performance objectives and standards are achieved. It is Hancock Energy's responsibility for ensuring that the activity is managed in accordance with this implementation strategy.

## 2.1 Management System Overview

The Hancock Energy HSEQ management system consists of the various elements as shown in Figure 2-1, and will be utilised to support Environmental management is an integral part of the EP512 drilling program in the identification and management of environmental risks to as low as reasonably practicable (ALARP).

To support this objective, the Hancock Energy HSEQ Management System requires a risk assessment to be conducted to identify potential environmental impacts (hazards) associated with the planned activity, with the risk assessment outcomes to assist with the development of clearly stated environmental objectives (mitigation strategies). Practical procedures are then developed to ensure that activities are conducted in a manner which achieve the environmental objectives.

There are clearly defined responsibilities for personnel to indicate their obligations regarding environmental management, with appropriate inductions and training of personnel. The auditing program ensures ongoing assessment of compliance with procedures and the achievement of objectives including a system of reporting for recording of data, performance monitoring and notification of relevant personnel.

The HSEQ Management System is supported by ongoing consultation and communication to seek input from, and to inform, all parties of relevant issues.

## 2.2 Systems, Practices and Procedures

Hancock Energy commits to identify and manage the risks and impacts of our activities to minimise adverse environmental impacts, applying leading industry standard practices in our approach. This policy applies to Hancock Energy and all its contractors and personnel working on Hancock Energy controlled workplaces and sites.

The HSEQ Policy is a fundamental component of Hancock Energy's integrated HSEQ Management System, which contains the plans, procedures, work instructions, forms, registers and supporting documents necessary to implement and comply with the HSEQ Policy commitments. Elements of the HSEQ Management System are utilised in the implementation strategy for the EP.

The design and implementation of the proposed activity will be conducted within the framework of the HSEQ Management System. The success of the HSEQ Management System relies on a commitment by Hancock Energy to "*Tread lightly on the land*", along with the following objectives:

- Fostering a culture of openness and accessibility across all areas of Hancock Energy's business;
- Committing suitable resources to ensure this policy and the HSEQ Policy objectives are achieved;
- Provision of a safe working environment and safe working practices;
- Providing suitable and sufficient instruction, information, training and supervision;
- Consistent application of hazard management with a defined level of acceptable risk;



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- Subject to prevailing legislation, applying International best practise irrespective of the operating region;
- Consultation with affected parties to find mutually acceptable solutions; and
- Undertaking of proportionate and systematic review, audit, measurement and evaluation to identify and implement improvement.

Table 2-1 lists a summary of the systems, practices and procedures that are or will be in place for the implementation of the activities associated with the EP.

**Table 2-1: Summary of Relevant Systems, Practices and Procedures**

| System, Practice or Procedure | Implementation Objective / Purpose |
|---|---|
| HSEQ Policy | Overarching Hancock Energy Policy outlining the objectives and targets and provides a framework for activities and is provided to all personnel including employees, contractors and subcontractors. |
| Environmental Plan | The Project EP outlines the planned activity, identified risks and management / mitigation measures that will be applied and reported against. |
| Oil Spill Contingency Plan | A standalone document, linked to the EP, that details how any potential oil spill scenario will be managed. |
| Contractor HSE Management System | Contractor HSEQ management systems which meet or exceed the Hancock Energy requirements of the HSE Policy, the EP and any contractual requirements. |
| Contractor Licensing & Insurances | Provision to Hancock Energy's satisfaction that contractors hold current and relevant licences and insurances relevant to their activities. |
| Risk Assessment Procedure | This document presents the risk matrix and risk assessment processes applicable to any qualitative risk assessment exercises carried out in relation to Hancock Energy activities. |
| Stakeholder Engagement Plan | An overarching document outlining the stakeholder engagement and consultation approaches, purposes, objectives and actions for Hancock Energy. |
| Stakeholder Consultation Register | A register of stakeholder consultation, purposes, contacts, issues and outcomes associated with EP 512 activities. This is maintained along with Stakeholder contact details within a dedicated database. |
| Waste Register | A register of waste collected and disposed of appropriately. The register will be established prior to the commencement of Project activities. |
| Emergency Response Plan | The Hancock Energy ERP provides guidance on the management of an emergency. |
| Contractor's Emergency Response Plan | To provide guidance on the management of an emergency and interface with the Hancock Energy ERP.<br>The Contractor ERP will be in place prior to the commencement of activities. |



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### 2.2.1 Document Hierarchy

Hancock Energy's HSEQ system follows a hierarchical structure where the documents at the lower level must meet and support the requirements of those of the higher levels. The core elements and structure are illustrated below in Figure 2-1.

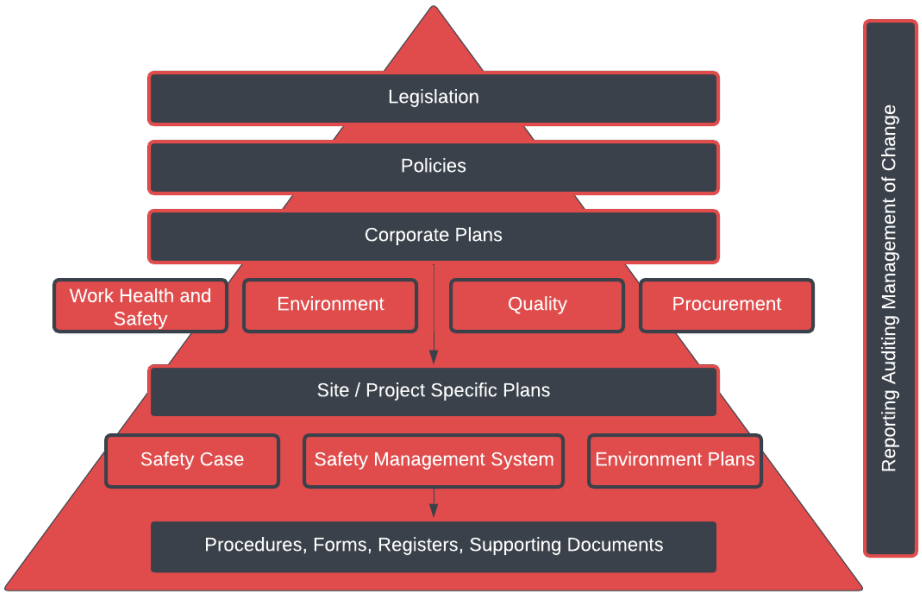


**Figure 2-1: HSEQ Document Hierarchy**



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### 2.2.2 Chain of Command

To meet the requirements of Regulation 15(4) of the PGER(E)R, a clear chain of command for the implementation of the petroleum activity is outlined in Figure 2-2.

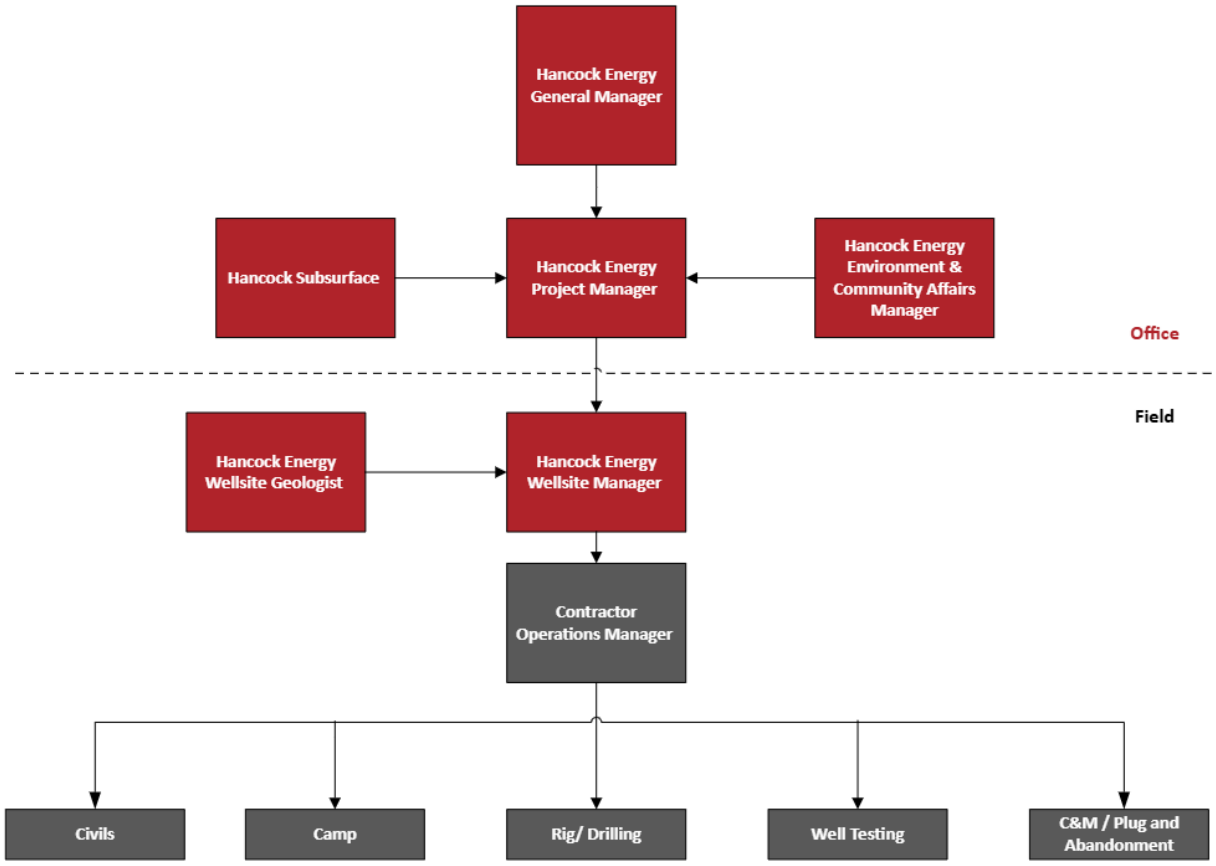


**Figure 2-2: Hancock Energy Chain of Command**

### 2.2.3 Oil Spill Contingency Plan

The Hancock Energy Oil Spill Contingency Plan (OSCP) outlines the response structure and considers the four key aspects of prevention, preparedness, response and recovery. An OSCP is required to set out the following:

- Preparations are on hand for the possibility of an oil spill;
- Emergency response arrangements are implemented if an oil spill occurs; and
- Recovery arrangements are implemented if an oil spill occurs.

The OSCP describes the Emergency Management framework that is in place to ensure any emergency spill events are managed effectively.



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### 2.2.4 Emergency Preparedness and Response

Emergency preparedness and response will be managed in accordance with Oil Spill Contingency Plan and Emergency Response Plan. During the well activities it is expected that at least one desktop emergency exercise will be completed for both stages respectively.

## 2.3 Environment Plan Revision

Regulation 18 of the PGER(E)R requires that Hancock Energy reviews and submits a proposed revision of the accepted EP:

- Before the commencement of a new activity, or any significant modification, change of a new stage of an existing activity; and
- Before, or as soon as practicable after, the occurrence of any significant new environmental impact or risk, or significant increase in an existing environmental impact or risk which occurred or is to occur.

Additionally, Regulation 20 of PGER(E)R requires that Hancock Energy submits a proposed revision of the EP five (5) years from the date when the EP is accepted by the Minister.

## 2.4 OSCP Revision

In accordance with Regulation 23 of the PGER(E)R, the in-force OSCP for the EP will be reviewed when:

- The OSCP has been approved for a period of 2.5 years;
- There is a significant change to the operations to which this OSCP relates; or
- There is a change to the operator of the activity.

Specifically, the OSCP will be resubmitted to DEMIRS for assessment at least 14 days before the end of the period of 2.5 years; noting that the 2.5 year period commences the day on which the EP is first approved, or the day on which a revision of the EP is approved.



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# 3 Description of the Activity

Hancock Energy on behalf of Warrego Energy is proposing to drill two exploration wells within EP 512. The Yuna West-1 well will be a traditional exploration well, with the Yuna East-1 well to primarily be a stratigraphic well. These wells will be used to obtain additional structural and stratigraphic information to assist Hancock Energy's geoscientific studies into the potential for new discoveries of conventional hydrocarbons. The data collected will help Hancock Energy's geoscientists to interpret the shape of sub-surface rock structures and refine geological models and targets of the Coolcalalaya Sub-Basin.

The two (2) well pads will cover approximately 51,200 $m^2$. The drilling activities described in the EP will be completed within EP512. Subject to approvals and rig availability, it is expected that the drilling of the wells will be commenced and substantially completed in Q1 – Q2 CY2025.

## 3.1 Location and Tenure

The two (2) wells are both located in EP512. Yuna East-1 exploration well will be located within the south-east portion of EP512, within the Shire of Chapman Valley, approximately 116 km east south east of Kalbarri. Yuna West-1 exploration well will be located within the south-west portion of EP512, within the shire of Northampton, approximately 112 km east-south of Kalbarri (Figure 3-1).

The Well site coordinates are provided in Table 3-1.

**Table 3-1: Well Locations**

| Details | Yuna East 1 | Yuna West 1 |
|---|---|---|
| Well Type | Stratigraphic Well | Exploration Well |
| Proposed Total Depth (m) | 2050.0 | 2050.0 |
| Map Sheet Name | Meekatharra | Meekatharra |
| Latitude Location (GDA 94) | 27° 56’ 10.96” | 27° 56’ 12.31” |
| Longitude Location (GDA 94) | 115° 18’ 48.61” | 115° 07’ 20.82” |

Coordinate details for the Yunna East and Yuna West accommodation camps are provided below in Table 3-2, with spatial locations shown in Figure 3-1.

**Table 3-2: Accommodation Camp Locations**

| Details | Yuna East 1 Camp | Yuna West 1 Camp |
|---|---|---|
| Proposed Camp Footprint (ha) | 1 ha | 1 ha |
| Map Sheet Name | Meekatharra | Meekatharra |
| Latitude Location (GDA 94) (centre point) | 27°56'6"S | 27°58'44"S |
| Longitude Location (GDA 94) (centre point) | 115°18'47"E | 115°0'54"E |



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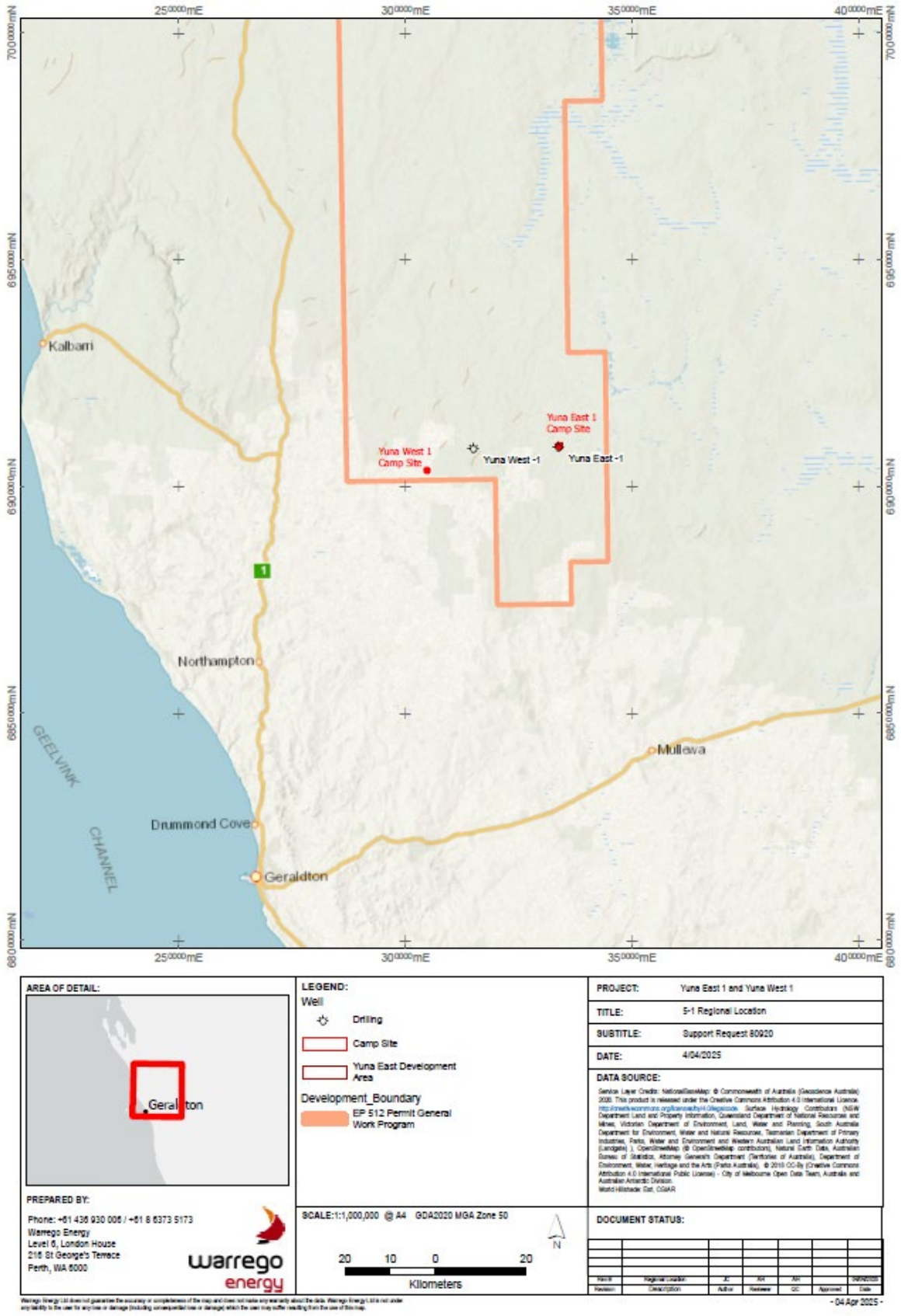


**Figure 3-1: Regional Location**



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## 3.2 Overview of Activities

Table 3-3 provides a summary of activities involved in the Project's key phases.

**Table 3-3: Key Phase Summary**

| Key Activity Phase | Summary |
|---|---|
| Site Preparation Operations | • Preparation of Access Tracks and Well Pad.<br>• Well site construction – comprising levelling, sheeting and preparation of surfaces to support compressive loads and limit erosion to the existing landscape.<br>• Groundwater extraction bore / monitoring bore and conductor installation.<br>• Construction of the lined mud sump, turkey nest, Vertical Seismic Profiling (VSP) pit and well cellar.<br>• Construction of the drilling flare pit. |
| Drilling Operations | • Mobilisation of the drilling package, ancillary services, camp, personnel and supplies.<br>• Conducting the drilling activities.<br>• Evaluating the well, suspension or decommissioning of the well.<br>• Demobilisation of the drilling package, ancillary services, camp/s, personnel and supplies.<br>• Completion activities (if the well is successful and not completed with the drilling rig) include:<br>▪ Mobilisation of work-over rig package, ancillary services, personnel and supplies;<br>▪ Conducting the well completion activities; and<br>▪ Demobilisation of work over rig package, ancillary services, site office, personnel and supplies. |
| Well Test Operations | • Construction of the well test flare pit (if utilised instead of vertical flare).<br>• Mobilisation of the well test package, ancillary services, personnel and supplies.<br>• Conduct the well test activities to evaluate the well.<br>• Demobilisation of the well test package, ancillary services, site support facilities, personnel and supplies. |
| Care and maintenance | • Inspection and maintenance of the well site and site infrastructure. |
| Decommissioning and Reinstatement Operations | • Removal and/or reinstatement of key infrastructure, such as:<br>▪ Drilling flare pit;<br>▪ VSP pit;<br>▪ Well test flare pit (if installed);<br>▪ Mud sump;<br>▪ Turkey nest; and<br>▪ Well head. |
| Project Area Handover | • In the event that the well is decommissioned, once the site is reinstated, the site will be handed back to the landowner in accordance with any relevant land access agreements. |



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## 3.3 SCHEDULE

The activities covered within the EP are planned to commence in June 2025, dependant on the approvals and Rig availability.

A summary of the proposed schedule is in Table 3-4. This schedule may be subject to change based on rig availability, additional approvals, scheduling and regulatory timeframes.

**Table 3-4: Well Schedule**

| ACTIVITIES | APPROXIMATE DURATION | INDICATIVE TIMING |
|---|---|---|
| Site Preparation Operations | 30 – 50 days | Stage 1: June – July 2025<br>Stage 2: August – September |
| Mobilisation of drilling package, ancillary services, site office, main camp, personnel and supplies. | 7 – 14 days | Stage 1: August 2025<br>Stage 2: October 2025 |
| Drilling, evaluation, and suspension, or Drilling and well decommissioning (plug and abandon) | 25 – 30 days | Stage 1: August – September 2025<br>Stage 2: October - November 2025 |
| Well Completion | 5-8 days | Stage 1: September 2025<br>Stage 2: November 2025 |
| Well test and shut in | 30-90 days | Stage 1: September 2026 – May 2027<br>Stage 2: November 2026 – June 2027 |
| Care and maintenance (in a success case) | 2+ years (dependant on future EP512 activities) | 2027 – 2029 |


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# 4 Description of the Environment

## 4.1 CLIMATE

The nearest Bureau of Meteorology (BOM) station for rainfall and temperature data is available is Kalbarri, station no. 008251, elevation 6 m. Weather readings have been taken from the Kalbarri BOM weather station located approximately 65 km west of the Operating Area (BOM, 2024). Figure 4-1 shows the average temperature and rainfall trend for the Operating Area.

The Project Area receives most of its rainfall during the winter in June, and its lowest mean rainfall during summer in December. The area is subject to high summer day temperatures averaging 31.2 °C and 34.1 °C between December and February and low winter night temperatures averaging 9.7°C during June (BOM, 2024).

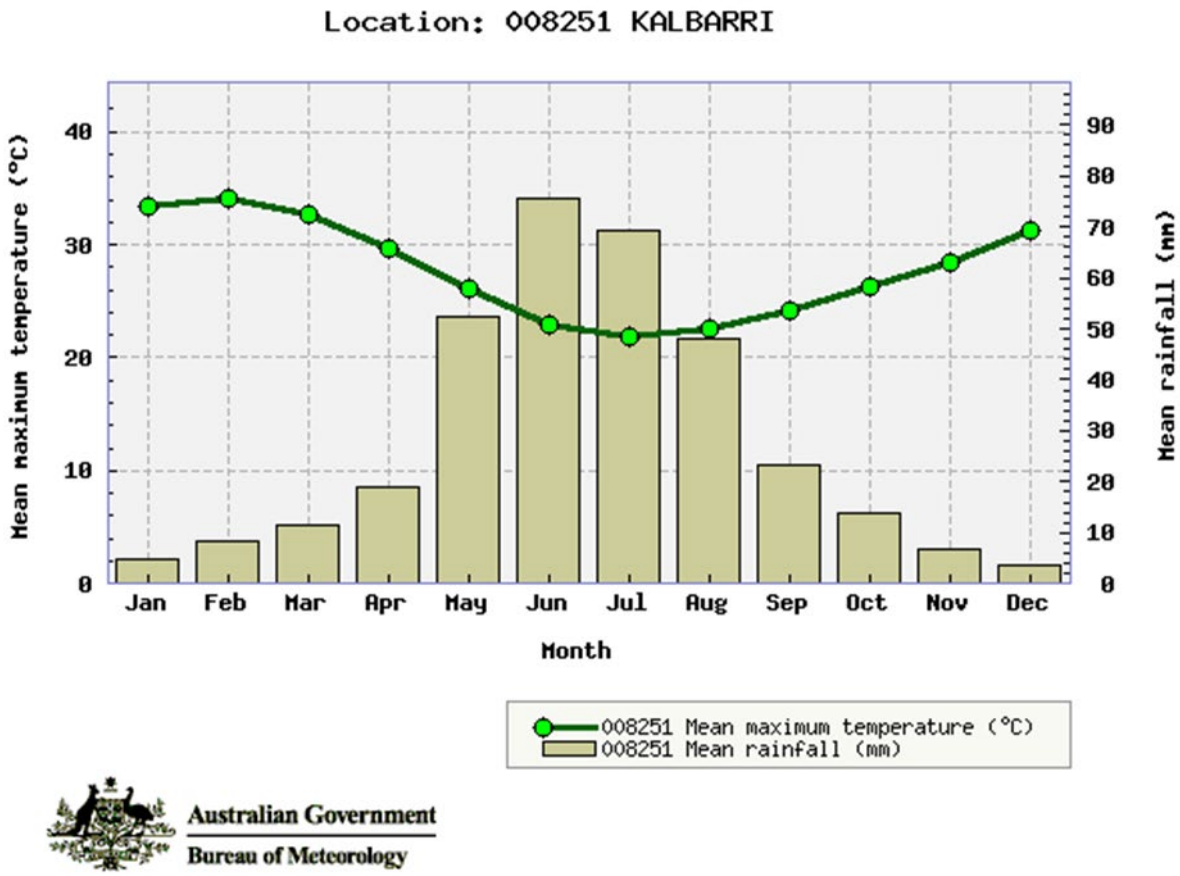


**Figure 4-1: Monthly Climate Data for the Operating Area**



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## 4.2 LANDFORM AND SOILS

Surface geology in the Operational Areas lies on the Victoria Plateau which averages about 250 m above sea level. It comprises a gently undulating sandplain overlying laterite of Pleistocene and/ or late Tertiary age. The laterite crops out where the sand has been stripped away (DoW, 2017).

Landforms and soils across the well sites can be described as gently undulating plateau underlain by sedimentary rocks; extensive yellow sandplains with numerous dunes. Laterite is exposed in places but there are no breakaways nor exposures of block laterite. Soil can be described as yellow earthy sands ( (Burbrudge, Fuller, & McCusker, 1978).

The geology of the Coolcalalaya Sub-Basin is poorly understood. Devonian, Carboniferous, Permian and Early Cretaceous sediments have been intersected during limited shallow drilling (Mory, Iasky, & Shevchenko, 1998). The Sub-Basin is believed to be up to 8,500 m thick; deepening in the east against the Darling Fault. Limited petroleum exploration activity has taken place with only one seismic line and no petroleum wells in the Permit area.

In soil landscape systems mapping, the S2OA intersects the Binnu North System (223Bn), the S1OA intersects the Binnu North System (223Bn), the Boulder System (227Bo) and the Dartmoor North System (223Da). The listed systems described below (Department of Primary Industries and Regional Development (DPIRD) -064 dataset) (Figure 4-2).

- Binnu North System (223Bn) - Gently undulating sandplain with numerous dune ridges;
- Dartmoor North System (223Dn) - Gently undulating plain with low hills and minor drainage lines. Silurian Tumblagooda sandstone. Red-brown hardpan shallow loam and red earths, loams, sands and duplexes; and
- Boulder System (227Bo) - Gently undulating stony plains and low rises supporting patchy acacia and halophytic shrublands.



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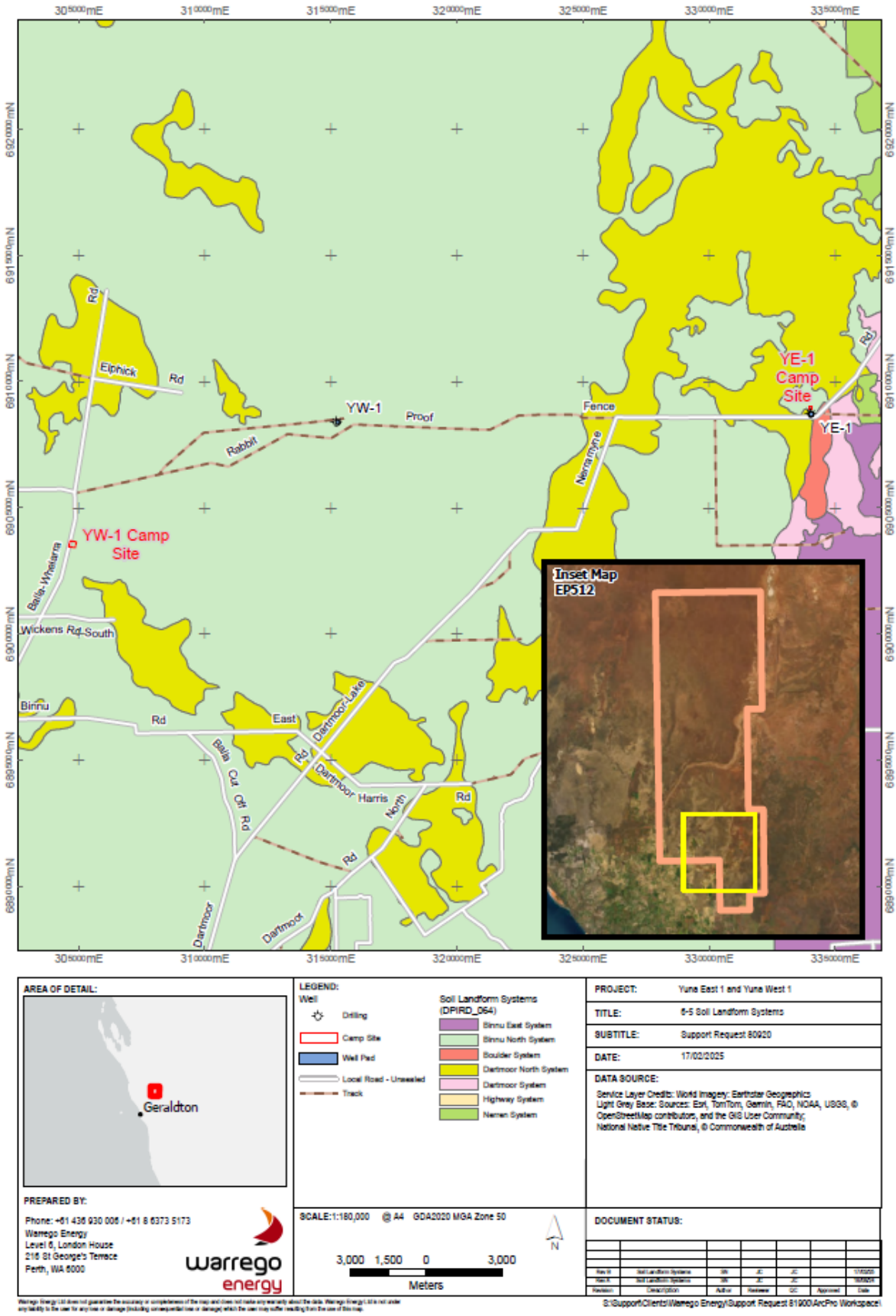


**Figure 4-2 Soil Landscape Systems**



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## 4.3 ENVIRONMENTALLY SENSITIVE AREAS

### 4.3.1 WA Conservation Areas and Environmentally Sensitive Areas

The Operational Areas are in close proximity to two WA State Nature Reserves. These reserves are:

- Mallee Nature Reserve – YW-1 (10.1 km), YE-1 (7 km); and
- Wandana Nature Reserve – YW-1 (17.4 km), YE-1 (10 km).

The Operational Areas do not intersect with threatened ecological communities or priority ecological communities listed under the EPBC Act and BC Act or with any other ESA boundaries. As such, Hancock Energy will not be required to seek a S15A approval of the PGER Act to gain access to the reserve.

A S15A consent has been obtained in relation to access to the DBNGP MLV 80 access road along with a S41 approval from DPLH.



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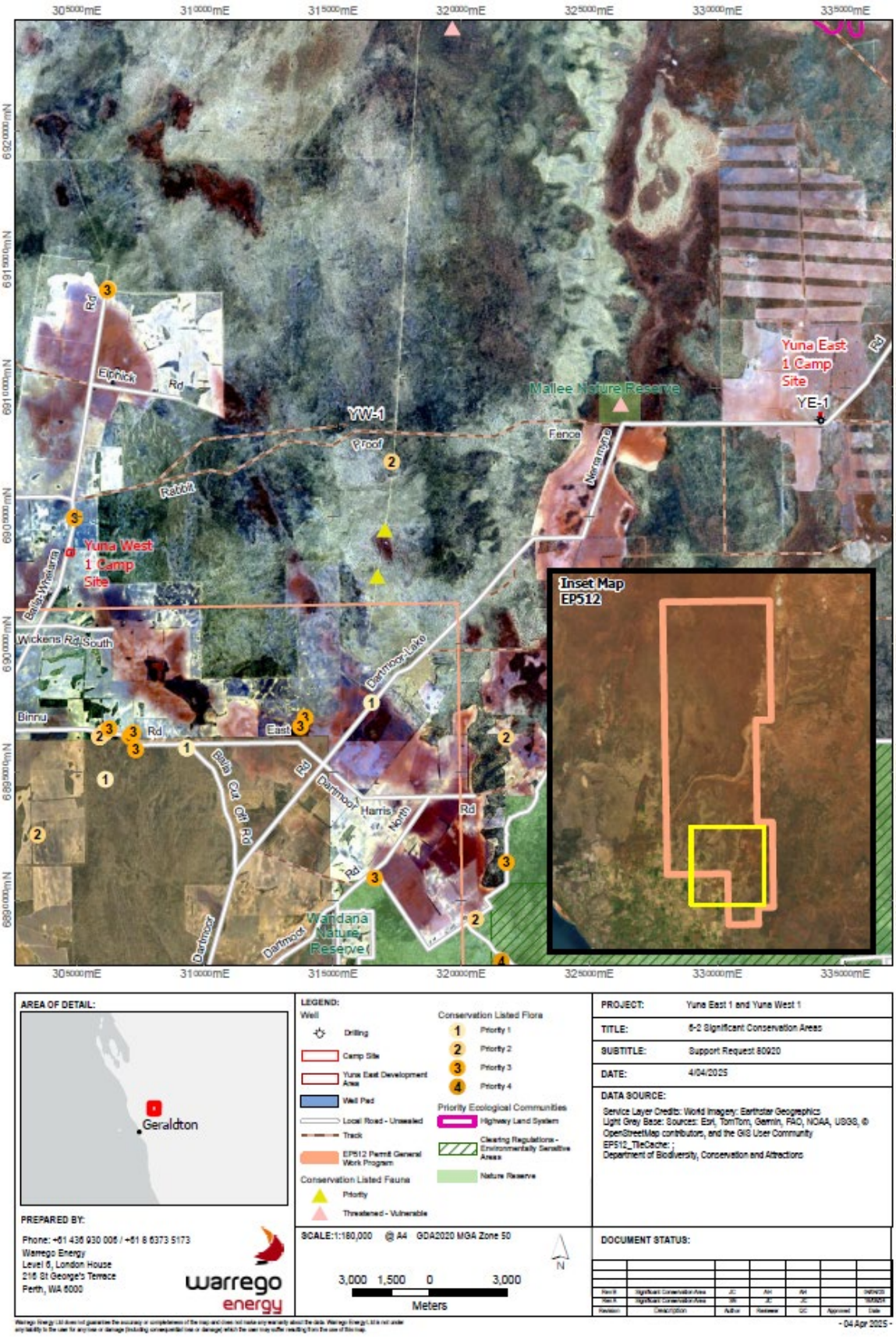


**Figure 4-3: Conservation Significant Areas**



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## 4.4 FLORA

### 4.4.1 Biogeography and Regional Vegetation

The Yalgoo Bioregion is characterised by low woodlands to open woodlands of *Eucalyptus*, *Acacia* and *Callitris* on red sandy plains of the Western Yilgarn Craton and southern Carnarvon Basin. *Mulga, Callitris,-E. salubris*, and *Bowgada open woodlands* and *scrubs* occur on earth to sandy-earth plains in the western Yilgarn Craton (APM, 2016).

The Yalgoo Bioregion is further subdivided into the Edel (YAL01) and Tallering (YAL02) sub-regions. The Edel sub-region is characterised by sandy proteaceous heath, casuarina scrub, and low close acacia shrublands. The Edel sub-region is unique because it is a transition zone for flora and fauna between the Southwest and Carnarvon Bioregions (APM, 2016).

The vegetation of Western Australia has been assigned to bioregions and subregions under the Interim Biogeographical Regionalisation for Australia (IBRA, version 7). The YE-1 and YW-1 well sites overlap the following subregions:

- Edel (YAL01) of the Yalgoo Region (YAL).

The S2OA is represented by the YUNA_380 and YUNA_36 vegetation associations, whilst the S1OA is represented by the TALISKER_404 vegetation association. A description of each of these associations is provided below:

- TALISKER_404 - Wattle, tea tree & other species Acacia spp. Melaleuca spp.;
- YUNA_36 - Wattle, casuarina and Teatree acacia-allocasuarina-melaleuca alliance; and
- YUNA_380 - Mixed heath with scattered tall shrubs Acacia spp., PROTEACEAE and MYRTACEAE.

### 4.4.2 Conservation Significant Flora Species

Desktop surveys completed using the Protected Matters Search Tool (PMST) (DCCEEW, 2024) and a NatureMap search tool with a buffer of 5 km (DBCA, 2024). The desktop assessments identified a number of priority flora and declared rare flora species that have a likelihood to be present within the Operational Area Table 4-1.

**Table 4-1: Conservation Significant Flora Species**

| SCIENTIFIC NAME | COMMON NAME | EBPC ACT STATUS | BC ACT STATUS |
|---|---|---|---|
| *Dasymalla axillaris* | Native Foxglove | CR | CR |
| *Androcalva bivillosa* | Straggling Androcalva | CR | CR |
| *Caladenia barbarella* | Small Dragon Orchid, Common Dragon Orchid | EN | EN |
| *Eremophila viscida* | Varnish Bush | EN | EN |
| *Eucalyptus cuprea* | Mallee Box | EN | EN |
| *Caladenia hoffmanii* | Hoffman's Spider-orchid | EN | EN |
| *Eucalyptus beardiana* | Beard's Mallee | V | EN |

Additionally, two (2) flora and fauna surveys were completed by Umwelt in October 2023 and August to October 2024 (Umwelt, 2024) , which occurred broadly across the Project's Operational Areas extending east and west of both sites. The Survey's Identified three (3) vegetation conditions within the survey area: 'Excellent', 'Very Good' and 'Good'. The vegetation over the S2OA was described as 'excellent, with


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noticeable impacts from the 2023-2024 drought with widespread plant senescence and a small amount of rubbish present.' while there was no vegetation description the S1OA as it is entirely on cleared land.

The flora surveys also recorded twelve DBCA listed significant flora taxa, however, only a few of the recorded species intersected with the Operational Areas. The identified twelve significant flora taxa including which Operational Area they intersected are listed in Table 4-2. All conservation significant species identified were of priority status and no vegetation types of conservation significance were found.

A copy of the Umwelt Flora and Fauna 2024 survey report is provided as Attachments 10 of the EP.

**Table 4-2 Taxa Recorded During Flora and Fauna Survey**

| Scientific Name | Conservation Status | S1OA | S2OA |
|---|---|---|---|
| *Acacia ampliata* | P1 | - | Recorded (ID not confirmed) |
| *Anthotroche myoporoides* | P3 | - | Recorded |
| *Dicrastylis linearifolia* | P3 | - | - |
| *Lepidobolus basiflorus* | P2 | - | - |
| *Lepidobolus eurardyensis* | P1 | - | - |
| *Persoonia papillosa* | P2 | - | Recorded |
| *Philotheca kalbarriensis* | P2 | - | Recorded |
| *?Scholtzia truncata* | P2 | - | - |
| *?Scholtzia uniflora* | P2 | - | - |
| *Styphelia brachygyna* | P2 | - | - |
| *Thryptomene duplicata* | P1 | - | Recorded (ID not confirmed) |
| *Thryptomene pieroniae (previously Thryptomene sp. Wandana* | P3 | - | Recorded |

### 4.4.3 Dieback and Introduced Flora

The 2023 flora and fauna report completed by Umwelt (Umwelt, 2024) identified four (4) introduced flora taxa within the survey area, given the close proximity of the survey area to the S2OA it is assumed these taxa are present within both Operational Areas. A further field survey undertaken in 2024 by Umwelt (Umwelt, 2024b) did not report any additional introduced taxa and/ or the presence of dieback. The introduced taxa identified includes:

- Citrullus amarus;
- Hypochaeris glabra;
- Pentameris airoides subsp. Airoides; and
- Raphanus raphanistrum.

The introduced taxa identified are not listed as Weeds of National Significance (WoNS) or Declared Pests under the *Biosecurity and Agriculture Management Act 2007*.

A copy of the Umwelt Flora and Fauna 2024b survey report is provided as Attachment 11 of the EP.



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## 4.5 FAUNA

### 4.5.1 Terrestrial Fauna

Given the remoteness of the Operational Areas, they are likely to have protected terrestrial fauna species within the vicinity (e.g. terrestrial mammals, reptiles and invertebrates). A desktop assessment was conducted using NatureMap (DBCA) and EPBC Protected Matters Search Tool to identify the possible occurrence of threatened and priority fauna species protected under the WA BC Act and the EPBC Act.

Desktop surveys completed using the Protected Matters Search Tool (PMST) (DCCEEW, 2024) and a NatureMap search tool with a buffer of 5 km (DBCA, 2024). Conservation significant terrestrial fauna species from the desktop surveys potentially occurring in the Operational Areas are summarised in Table 4-3.

A flora and fauna report completed by Umwelt (2024) identified 16 mammals and 6 reptiles within the survey area, given the close proximity of the survey area to the S2OA it is assumed these species are present within both Operational Areas. None of the identified species from the flora and fauna survey are classified as conservation significant fauna.

**Table 4-3: Conservation Significant Terrestrial Fauna**

| SCIENTIFIC NAME | COMMON NAME | DESCRIPTION | EPBC ACT | BC ACT |
|---|---|---|---|---|
| **Mammals** | | | | |
| *Dasyurus geoffroii* | Chuditch, Western Quoll | Translocated population known to occur within area. The chuditch is a nocturnal, solitary and nomadic species that is distinguishable from other mammals within its present range by its white spotted brown pelage. They are seasonal breeders, with mating occurring in late April to early July.<br>The majority of chuditch now occur in the jarrah forest with some wheatbelt/goldfields populations in drier woodlands, heath and mallee shrublands. The taller shrublands and woodland in the minor creek potentially support chuditch. | VU | |
| **Reptiles** | | | | |
| *Egernia stokesii badia* | Western Spiny-tailed Skink | This subspecies occurs in open eucalypt woodlands and Acacia-dominated shrublands in semi-arid to arid areas of south-western WA (Geraldton Sandplains and Yalgoo IBRA). It shelters in logs, in cavities in the trunks and branches of shrubs, as well as in houses and ruins especially in accumulations of old corrugated iron. | EN | |
| **Invertebrates** | | | | |
| *Idiosoma nigrum* | Shield-backed Trapdoor Spider, Black Rugose | The Spider is dark brown to black, large (females up to 30 mm in body length) and with a distinctive thick and hard cuticle on the abdomen. The species is very well-adapted for life in semi-arid habitats and lives in burrows | VU | EN |



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| Scientific Name | Common Name | Description | EPBC Act | BC Act |
|---|---|---|---|---|
| | Trapdoor Spider | that are tubular and approximately 20–30 cm deep. The species becomes dormant during the drier months of the year from November to February. | | |

### 4.5.2 Avifauna / Birds

Desktop surveys completed using the Protected Matters Search Tool (PMST) (DCCEEW, 2024) and a NatureMap search tool with a buffer of 5 km (DBCA, 2024). Conservation significant avifauna species from the desktop surveys potentially occurring in the Operational Areas are summarised in Table 4-3.

A flora and fauna report completed by Umwelt (2024) identified 47 bird species within the survey area, given the close proximity of the survey area to the S2OA it is assumed these species are present within both Operational Areas. None of the identified species from the flora and fauna survey are classified as conservation significant fauna.

**Table 4-4: Conservation Significant Bird Species**

| Scientific Name | Common Name | Conservation Code | Migratory Status | |
|---|---|---|---|---|
| | | EPBC Act | BC Act | BC Act / EPBC Act |
| *Calidris ferruginea* | Curlew Sandpiper | CR | CR | MI |
| *Rostratula australis* | Australian Painted Snipe | EN | EN | - |
| *Pezoporus occidentalis* | Night Parrot | EN | CR | - |
| *Zanda latirostris* | Carnaby's Black Cockatoo, Short-billed Black-cockatoo | EN | EN | - |
| *Leipoa ocellata* | Malleefowl | VU | VU | - |
| *Aphelocephala leucopsis* | Southern Whiteface | VU | - | - |
| *Calidris acuminata* | Sharp-tailed Sandpiper | VU | - | MI |
| *Apus pacificus* | Fork-tailed Swift | - | - | MI |
| *Motacilla cinerea* | Grey Wagtail | - | - | MI |
| *Actitis hypoleucos* | Common Sandpiper | - | - | MI |
| *Calidris melanotos* | Pectoral Sandpiper | - | - | MI |


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### 4.5.3 Introduced Fauna

A flora and fauna survey report completed by Umwelt (2024) identified five (5) introduced fauna species within the survey area, given the close proximity of the survey area to the S2OA it is assumed these species are present in the surrounds of both Operational Areas. The identified species are:

- Dog (Canis lupis familiaris);
- Sheep (Ovis aries);
- Rabbit (Oryctolagus cuniculus);
- Cat (*Felis catus*); and
- Cattle (*Bos taurus*).

## 4.6 SURFACE WATER

The Project Area sits south of the Murchison River and north of the Greenough River towards the southern boundary of EP 512. There is no interaction with the Murchison or Greenough Rivers by the Project activities. The closest waterbody to the YW-1 well site is a non-perennial stream located 31 km to the southwest, whilst the closest waterbody to the YE-1 well site is a non-perennial stream located 14.1 km to the southeast.

The Murchison River basin covers an area of approximately 82,000 km$^2$ in the Mid-West region of Western Australia. It extends about 550 km inland from the Indian Ocean, onto the Yilgarn Craton east of Meekatharra and north of Sandstone. Rain generally falls in the upper basin during summer cyclones, so for much of the year the Murchison River does not flow, leaving a dry sandy riverbed and intermittent permanent pools.

The eastern reaches of the basin contain large chains of salt lakes, which flow only following rainfall. The drainage lines from these lakes merge to form the Murchison River about 90 km north-northeast of Meekatharra. From here the river flows west, then southwest, then west to the Indian Ocean.

Within the basin are the towns of Kalbarri and Meekatharra; the hamlets of Ajana, Binnu, Barrel Well and Murchison; and the mining ghost towns of Galena, Geraldine, Abbotts, Chesterfield, Yaloginda, Reedy, Nannine, Quinns, Burnakura and Gabanintha.

The Murchison River rises on the southern slopes of the Robinson Ranges, approximately 75 km north of Meekatharra in central Western Australia. From there it flows in a westerly direction for about 130 km to its junction with its largest tributary, the Yalgar River, then west for another 100 km before turning south-southwest for 120 km, at which point it is joined by the Roderick River, about 30km east of Murchison Settlement. Another 70 km to the south-southwest it joins another important tributary, the Sanford River. Over the next 100 km it makes several sharp turns, taking it about 70 km to the west. It then flows to the southwest, flowing under the North-West Coastal Highway at the Galena Bridge. Entering the Kalbarri National Park, it flows first to the northwest and then to the north, flowing through the Murchison Gorge, and passing through several tight bends known as the Z Bend and The Loop respectively. It eventually turns to the southwest, passing through one more dogleg before discharging into the Indian Ocean at Kalbarri, the only town on the river.



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## 4.7 GROUNDWATER

Both Operational Areas are located within the Greenough River and tributaries catchment area, within the Gascoyne Groundwater Area. The Murchison River flows from east to west to the north of the Operation Areas. The Murchison River is an ephemeral river located in the Murchison-Hill Basin. It is 300 km long, the second longest river in Western Australia, and has a catchment of 14,850 $km^2$. The Murchison River starts in the Robinson Ranges near Meekatharra and enters the ocean at the Murchison River estuary at Kalbarri.

A desktop assessment was undertaken to identify the groundwater context of the area. The Operation Areas are located within the Gascoyne Groundwater Area, which is a proclaimed groundwater area under the *Rights in Water and Irrigation Act 1914*. There is no groundwater allocation plan for the Operational Areas.

The Gascoyne Groundwater Area extends north to Kalbarri and bounds the Arrowsmith Groundwater Area east to pastoral country. The largest groundwater aquifer occurs in the Yarragadee Formation, which has an estimated yield of 22.5 million $m^3$/year. Groundwater from fractured rock aquifers in the eastern, inland part of the region is predominantly saline, with poor yields (NARvis, 2024).

The Yarragadee Formation comprises sand, shale and siltstone and extends 800-1,000 m deep. The water table may lie 130 metres below ground level (mbg**l**), with only the uppermost 100 m considered fresh. Salinity increases with depth towards the coast and is associated with saltwater intrusion. Groundwater underlying the Yarragadee Formation is saline (Water and Rivers Commission, 2002).

## 4.8 CULTURAL HERITAGE

The YE-1 well site is located within two Native Title Claim Areas comprising the following Native Title Parties (NTP):

- Wajarri Yamatji People (WC2004/010) represented by the Yamatji Marlpa Aboriginal Corporation (YAC).

The YW-1 well site is located within two Native Title Claim Areas comprising the following Native Title Parties (NTP):

- Nanda People (WC2000/013) represented by the Yamatji Marlpa Aboriginal Corporation.

Warrego Energy has Heritage Protection Agreements (HPA) with each identified Native Title Party (NTP) and continue to engage with the NTPs and their relevant cultural heritage service providers Yamatji Marlpa Aboriginal Corporation (representing Wajarri Yamatji and Nanda People) and Roe Legal Services (representing Mullewa Wadjari Community).

A search of the Department of Planning, Lands and Heritage (DPLH) Aboriginal Heritage Inquiry System (AHIS) in July 2024 identified no Aboriginal Heritage Places within 10 km of the YW-1 and YE-1 well sites.



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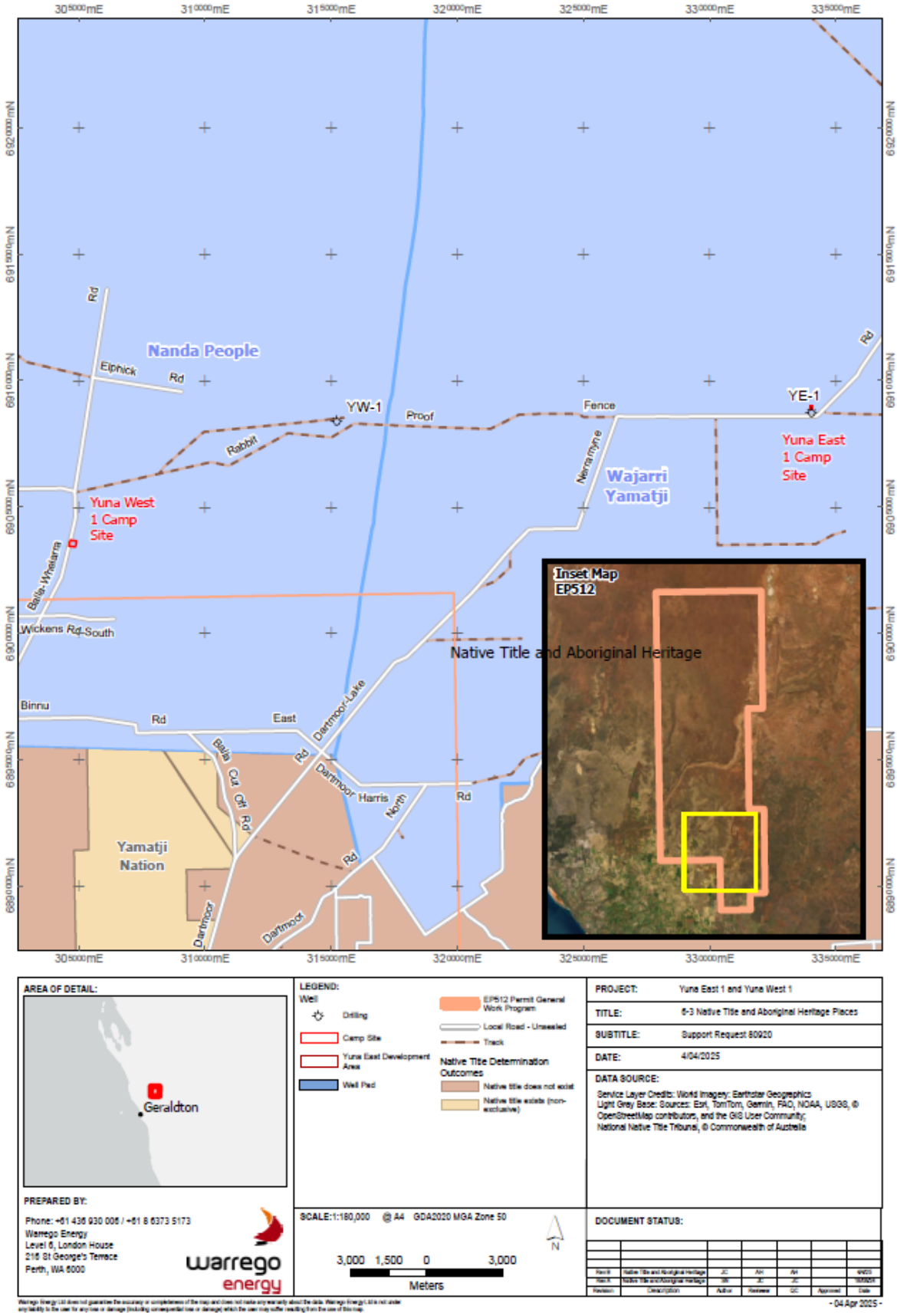


**Figure 4-4: Native Title Determinations and Claims**

## 4.9 EUROPEAN HERITAGE

A search (July 2024) of the State Heritage Register (inHerit) identified no European Heritage places listed within or in close proximity to the well site areas. A search of Local Government Authority locally listed Heritage Places identified one location within proximity of the Project Area.

**Table 4-5: Local Government Authority Heritage Places**

| HERITAGE PLACE NAME | PLACE # | LOCATION | DESCRIPTION |
|---|---|---|---|
| Rabbit Proof Fence No 2 and No 3 | 15022 | Northampton to Ravensthorpe | N/A |

## 4.10 SOCIO-ECONOMIC ENVIRONMENT

The Operational Areas are located within a sparsely populated region with minimal settlement, transport and communications infrastructure. The nearest population centre to the Operational Areas away from YW-1 and YE-1 well sites respectively:

- Kalbarri townsite is approximately 112 km and 116 km;
- Northampton townsite is approximately 98 km and 100 km;
- Nabawa townsite is approximately 96 km and 102 km; and
- Yuna townsite is approximately 121 km and 60 km.

The economy of the region depends primarily on agriculture and tourism. Local farming includes the production of cereal crops (wheat, canola, lupins, oats) and livestock (primarily sheep). The picturesque coastal towns and nature reserves are popular holiday destinations and tourism is an important part of the local economy. The region has a long history of copper and lead mining, although the mining sector is now declining (NARvis, 2024).

Land in the surrounding areas of the well sites subject to crown reserves, unallocated crown land, crown land, roads and pipeline reserve and private freehold tenure. The area encompasses some pasture, some conservation of flora and fauna nature reserves and areas of remnant native vegetation.

The YW-1 well site is within a block of vegetation, the condition of which has been described in Section 4.4. There are no fixed sensitive receptors within a 5 km radius of the well site.

The YE-1 well site is within a block of cleared agricultural land with no vegetation present. The closest (intermittently occupied) sensitive fixed receptor (Mallee Station) is located ~1.5 km away to the west.



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# 5 Stakeholder Consultation

## 5.1 Methodology

In preparation of the grant of EP512, Warrego Energy initiated a stakeholder consultation program in 2019, with the grant of the petroleum title for exploration rights in EP512 being issued in 2023. Upon issue, Warrego Energy extended the stakeholder engagement process to include Local Government Authorities (LGA) and DBCA. Since 2023, Hancock Energy has continued to consult with landholders, traditional owners, LGA's, state and federal government agencies and other stakeholders with regards to potential and future exploration activities. This consultation is now ongoing through Hancock Energy on behalf of Warrego Energy since Hancock Energy was appointed the Operator of EP512.

The Stakeholder Management Plan ensures that all stakeholder engagement processes are planned and developed in line with the requirements of the PGER(ER, the DEMIRS Guideline for the Development of Petroleum and Geothermal Environment Plans (**DEMIRS EP Guidelines**) in Western Australia (2022), Australian Petroleum Production & Exploration Association (**APPEA**) land access framework, Ministerial Council on Mineral and Petroleum Resources Principles for Engagement with Communities and Stakeholder (2005), AA1000 Accountability Stakeholder Engagement Standard 2015 and industry best practice.

Hancock Energy's Stakeholder Management Plan is designed to apply to all stakeholders and ensure a fluid continuous improvement approach from lessons learnt and adapt to the different operational activities being planned, implemented and closed out. The Stakeholder Management Plan is managed and primarily implemented by the Environment and Community Affairs Manager. This role is supported by at least one stakeholder engagement officer / advisor as well as all Hancock Energy employees and contractors being educated on the protocols associated with the Stakeholder Engagement Management Plan through inductions to ensure that all stakeholder engagement is conducted in line with the key principles and also appropriately recorded and actions implemented where required. The Stakeholder Management Plan fits within the broader Hancock Energy HSEQ Management System and requires at least annual review. In addition, significant complaints or incidents, along with changes of operational activity will trigger a review of the Stakeholder Engagement Plan to ensure that it is appropriate and that all personnel and contractors are adequately informed with regard to its requirements.

Hancock Energy's approach to stakeholder engagement and consultation has always been inclusive and open to ensure effective engagement resulting in positive and long-term relationships with stakeholders, and Hancock Energy, as Operator of the Project intends to continue this. The stakeholder engagement and consultation to date aligns with the DEMIRS EP Guidelines (Regulation 17). This includes, but is not limited to the following key principles of stakeholder engagement included in those guidelines:

- **Communication:** Consultation includes open and two-way communication which is honest and appropriate to the stakeholder and the activity being discussed. The clearly defined communication channels have demonstrated a positive consultation dialog with all stakeholders to date and enabled direct access by stakeholders to key nominated Hancock Energy representatives to enable two-way communication and effective and appropriate timeframes for consultation and understanding of the planned activities.
- **Transparency:** Transparency is a critical element of any stakeholder consultation process. Stakeholder consultation processes ensure that all communication is transparent and open to ensure that both Hancock Energy and the stakeholder understand the planned activity, the proposed timeframe for the activities, potential risks and benefits, the processes required for the activity to occur, how it will be conducted and the rehabilitation or close out of that activity. All



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outcomes of consultation are recorded and made available to the stakeholder to ensure that the information being captured from the consultation is accurate and reflective of both parties' understanding of the discussion and any queries or outcomes.

- **Collaboration:** To date Hancock Energy has demonstrated a clear collaboration approach to stakeholder consultation. In accordance with the Stakeholder Management Plan, identification of potential mutually beneficial outcomes and approaches to activities is a key aspect of the consultation approach. The cooperative and collaborative approach has enabled strong stakeholder relationships to continue throughout the various phases of the exploration activities and will continue. The collaboration between Hancock Energy and its stakeholders will enable opportunities to be identified to deliver positive and mutually beneficial outcomes for all parties..
- **Inclusiveness:** Warrego Energy's stakeholder engagement process commenced in 2019 regarding the EP 512, with Hancock Energy to continue this ongoing process of inclusiveness. The inclusion of the stakeholders in the planning and preparation for activities and keeping the stakeholders informed during the entire Project life cycle has been and is a critical aspect of effective stakeholder consultation. Early engagement with stakeholders in the infancy of project phases and the continuation of that engagement and consultation has enabled strong stakeholder relationships to be developed.
- **Integrity:** As with all key principles of stakeholder consultation and engagement, integrity is critical. Ensuring the Hancock Energy representatives engage with stakeholders to maintain an open and honest approach with integrity, enables the development of a mutual respect and trust. Hancock Energy's established stakeholder relationships have clearly demonstrated that integrity is a critical aspect and is equally important to Hancock Energy and all associated representatives. Demonstration of ongoing effective, open, honest and respectful communication, engagement and consultation assists with developing and maintaining good stakeholder relationships for the long term.

This consultation and communication will be continued and maintained throughout implementation of the activity and life of the Permit. All communications and engagement are recorded in Hancock Energy's dedicated stakeholder communications database.

The Stakeholder Management Plan was developed in accordance with requirements of Section 3.8 of the DMIRS Guideline (2022) which includes the following key components:

- Relevant stakeholder identification, effort, analysis and mapping prior to the proposed activity;
- Provision of sufficient information and time to respond;
- Respond, address and keep records of relevant stakeholder consultation; and
- Ongoing consultation, notifications, engagement and negotiations (where appropriate).

Hancock Energy remains committed to "*treading lightly on the land*" and this is reflected in our Stakeholder Engagement Plan and associated processes.



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## 5.2 Result of Consultation

- In accordance with Regulation 17 of the PGER(E)R, Hancock Energy reviewed the existing Stakeholder ID Tool to determine which authorities, persons and organisations were considered to be relevant for the activities covered under the EP. The following stakeholders were identified and include:
- 2 directly impacted freehold landholders;
- 5 Local government (City of Greater Geraldton, Shires of Northampton, Chapman Valley, Murchison and Shark Bay), with a focus on the 2 directly impacted Shire's of Chapman Valley and Northampton;
- Government agencies (DBCA, DWER, DEMIRS, OEPA, DPIRD, DPLH);
- 4 Native Title Parties covering multiple determined and claimant areas (Yamatji Nation, Wajarri Yamatji, Nanda, Mullewa Wadjari), all of whom Warrego Energy has a **HPA** with;
- Pipeline operator (DBP/AGIG); and
- Broader landholders and stakeholders along and adjacent to the transport routes and the general community.

All feedback and comments that have been received during the consultation period have been addressed in this Environmental Plan.

## 5.3 Ongoing Consultation

Hancock Energy will continue to consult with all stakeholders throughout the course of the EP, with public notices to be provided by local newsletters.

To ensure stakeholders and the community are aware of the Project activity, the Local Governments will be provided with an overview presentation that details the activity to enable community queries to be answered or referred to Hancock Energy.

Hancock Energy will continue stakeholder consultation in accordance with the Stakeholder Management Plan in advance of, during and following project activities to ensure project awareness, understanding of concerns and ensuring ongoing positive and two-way effective communication to ensure the successful implementation of the project and ongoing positive relationships.

The ongoing consultation will include face to face consultation, where possible, with all potentially impacted and indirectly impacted stakeholders associated with the activities during September – December 2024 and through to the commencement of well activities.

## 5.4 Complaints Management

All complaints will be documented and dealt with in an expeditious manner in accordance with Hancock Energy's Incident Reporting Procedure to ensure the minimum of duress to the complainant and to show Hancock Energy's commitment to community and stakeholder welfare. The register will be made available to the regulatory authorities upon request. Actions taken with respect to complaints will be noted and the complainant advised of the outcome.


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# 6 Identification of Environmental Risk and Impacts of the Activity

## 6.1 Risk Assessment

Regulation 14(3)(c) of the PGER(E)R requires Hancock Energy to include details of all environmental impacts and risks arising from, or associated with the proposed activity, along with an evaluation of these impacts and risks.

The risk assessment framework applied to the EP was undertaken in accordance with Hancock Energy's Risk matrix and is in line with the ISO 31000:2018 and HB203:2012. The risk management process concentrates on the hazard identification, risk assessment and risk mitigation components. All credible hazards and risks identified during the workshop were assessed against the Hancock energy Risk Matrix.

The HAZID was conducted to identify all the possible health, safety and environmental risks and hazards associated with the care and maintenance activities and to ensure that appropriate safeguards are in place to manage and maintain the facilities with the hazards at an acceptable level (ie. ALARP). The group included consultation with environmental, drilling, engineering and executive personnel.

A summary of the hazards, their associated aspects and their associated management and mitigation measures are detailed below in Table 6-1.

**Table 6-1: Summary of Environmental Hazards and Management Measures**

| Aspect | Hazard | Management and Mitigation Measures |
|---|---|---|
| | | **Demonstration of ALARP** |
| Physical Interaction - Soil and Vegetation | • Spread of non-indigenous species (weeds)<br>• Damage to heritage sites / artefacts<br>• Unintentional clearing of native vegetation<br>• Inadequate site reinstatement | • Construction fill verified as having low weed / dieback risk (Substitution)<br>• Planned discharge of sewage (Eng)<br>• Demarcation of clearing area (Eng)<br>• Project Induction (Admin)<br>• Hygiene management requirements (Admin)<br>• Consultation (Admin)<br>• Complaint management system (Admin)<br>• Heritage artefact identification procedure (Admin)<br>• s41 access approval (Admin)<br>• Land access agreement(s) (Admin) |
| Noise Emissions | • Temporary Disruption to residents, landholders and third parties from noise<br>• Temporary disruption to fauna from noise | • Landowner Temporary Displacement (Isolation)<br>• Well test design (Eng)<br>• Flare Noise Modelling (Eng)<br>• Well site layout / design (Eng)<br>• Project Induction(s) (Admin)<br>• Consultation (Admin)<br>• Complaints management system (Admin)<br>• *Noise Regulations 1997* (Admin) |



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| Aspect | Hazard | Management and Mitigation Measures |
|---|---|---|
| | | **Demonstration of ALARP** |
| Dust Emissions | • Disturbance to landowners or sensitive fauna from dust emissions | • Landowner Temporary Displacement (Isolation)<br>• Well site layout / design (Eng)<br>• Dust Suppression measures (Eng)<br>• Project induction(s) (Admin)<br>• Consultation (Admin)<br>• Complaints Management System (Admin)<br>• Road us agreement(s) (Admin)<br>• Speed Limits (Admin) |
| Light Emissions | • Disturbance to landowners or sensitive fauna from light emissions | • Landowner Temporary Displacement (Isolation)<br>• Well site layout / design (Eng)<br>• Project Induction(s) (Admin)<br>• Consultation (Admin)<br>• Complaints management system (Admin) |
| Atmospheric Emissions | • Contribution to increased greenhouse gas emissions from Project activities | • Use of pilot flame use during flaring (Eng)<br>• Project Induction(s) (Admin)<br>• Complaints management system (Admin)<br>• Monitoring and reporting of emissions (Admin)<br>• NGERS Reporting, if required (Admin) |
| Groundwater Management | • Damage to vegetation due to drawdown of shallow groundwater | • Project Induction(s) (Admin)<br>• Groundwater licensing (26D and 5c) (Admin)<br>• Meter calibration and monitoring and testing (Admin) |
| Terrestrial Fauna and Livestock | • Injury or fatality to fauna / livestock | • Fauna exclusion and egress (Eng)<br>• Well site layout / design (Eng)<br>• Project Induction(s) (Admin)<br>• Site inspections (Admin)<br>• Speed limits (Admin) |
| Fire Management | • Fauna injury / fatality<br>• Damage to adjacent pastoral lands | • Fire breaks (Eng)<br>• Project Induction(s) (Admin)<br>• DFES Engagement / Shire chief fire warden (Admin)<br>• Subscription to local fire notification (Admin)<br>• Maintain firefighting equipment (Admin)<br>• *Bush fires regulations 1954* (Admin)<br>• Emergency response plan (Admin)<br>• Permit to work (PTW) (Admin)<br>• Consultation (Admin)<br>• Use local / state fire hazard warning levels (Admin)<br>• |



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| Aspect | Hazard | Management and Mitigation Measures |
|---|---|---|
| | | **Demonstration of ALARP** |
| Surface Water Management | • Unplanned disturbance to adjacent land / soil contamination | • Mud Sump Design (Eng)<br>• Soil and vegetation stockpiling (Eng)<br>• Project Induction(s) (Admin)<br>• HSE inspections (Admin)<br>• Inspection of sumps (Admin)<br>• Groundwater bore licence and design (Admin)<br>• Speed Limits (Admin)<br>• Land Access Agreements (Admin)<br>• Site design and construction / preparation (Admin) |
| Spill Management | • Surface spill of drilling or completion fluid resulting in contamination of soil / useable groundwater aquifers<br>• Subsurface spill of drilling fluid resulting in contamination of useable groundwater aquifers | • Bund construction (Eng)<br>• Low toxicity drilling fluid (Eng)<br>• Surface casing cemented across all useable freshwater aquifers (Eng)<br>• Project Induction(s) (Admin)<br>• Chemical Disclosure (Admin)<br>• Soil sampling (Admin)<br>• Groundwater monitoring (Admin)<br>• Manned site 24 hours a day during well operations (Admin)<br>• Implementation of Project OSCP (Admin)<br>• Discharges are monitored and reported (Admin) |
| Waste Management | • Environmental pollution and attraction and/ or injury of protected fauna species within the vicinity of the well locations | • Appropriate sealed rubbish bins and waste segregation (Isolation)<br>• Project Induction(s) (Admin)<br>• Appropriately licenced waste contractor (Admin)<br>• Waste licensing (Admin)<br>• Water sampling (Admin)<br>• Waste register (admin) |
| Hydrocarbons and Hazardous Materials Management (excluding LOWC) | • Contamination of soil / groundwater | • Spill protection during refuelling (Eng)<br>• Chemical and hazards liquid material storage (Eng)<br>• Solid (dry) chemical storage requirements (Eng)<br>• Dangerous goods storage requirements (Eng)<br>• Spill kits (Eng)<br>• Project Induction(s) (Admin)<br>• Soil sampling (Admin)<br>• Groundwater sampling (Admin)<br>• Well testing equipment (Admin)<br>• Well testing – Emergency Shut Down (Admin)<br>• Emergency response plan (Admin)<br>• OSCP (Admin) |



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| Aspect | Hazard | Management and Mitigation Measures |
|---|---|---|
| | | **Demonstration of ALARP** |
| Hydrocarbons and Hazardous Materials Management (LOWC) | • Atmospheric emissions and contamination of soil / groundwater | • Spill protection during refuelling (Eng)<br>• Spill kits (Eng)<br>• Blow out control equipment and expertise (Eng)<br>• Project Induction(s) (Admin)<br>• Well management plan (Admin)<br>• HSE management plan bridging document (Admin)<br>• Groundwater sampling (Admin)<br>• OSCP (Admin)<br>• Emergency response plan (Admin) |


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# Attachment 1: HSEQ Policy

# Occupational Health and Safety, Environment and Quality Policy

"*Tread lightly on the land*" has been a central tenet of Warrego Energy Limited from its creation and remains a core value for the Company. Belief and commitment to this principle comes from the General Manager and the Board of Directors.

This policy applies to all Warrego Energy Pty Ltd companies.

The Workplace Health and Safety, Environment and Quality (**HSEQ**) objectives are:

- realisation of Warrego Energy's tenet "*Tread lightly on the land*"
  - zero harm to a person's health
  - minimise environmental impact
  - preserve cultural heritage
  - respect our neighbours, communities, and stakeholders
- compliance with prevailing legislation
- application of appropriate international best practise
- regular review and improvement

These HSEQ objectives will be achieved by:

- fostering a culture of openness and accessibility across all areas of Warrego Energy's business;
- committing suitable resources to ensure this policy and the HSEQ objectives are achieved;
- provision of a safe working environment and safe working practices;
- definition, communication and conscientious implementation of a documented HSEQ integrated management system meeting prevailing legislation and relevant elements of AS/NZS ISO 9001:2016, AS/NZS ISO 14001:2016, AS/NZS ISO 45001:2018 and AS/NZS ISO 31000:2018;
- providing suitable and sufficient instruction, information, training and supervision to employees;
- consistent application of hazard management with a defined level of acceptable risk;
- within prevailing legislation, applying appropriate International best practise irrespective of the operating region;
- consultation with affected parties to seek to find mutually acceptable solutions; and
- undertaking of proportionate and systematic review, audit, measurement and evaluation of the systems to identify and implement improvement.

Austen Fresson
*General Manager*
*Warrego Energy Pty Ltd*

# Attachment 2: Chemical Disclosure

# Attachment 7: Chemical Disclosure

**Contents**


1. Drilling Fluid Chemical Disclosure
2. Cement and Spacer Chemical Disclosure
3. Alternative Drilling Fluid System
4. SDS – Conductor Drilling
5. SDS – Halliburton
6. SDS - Newpark
7. SDS - Schlumberger

## 1. DRILLING FLUID CHEMICAL DISCLOSURE

| A. SYSTEM DETAILS: | |
|---|---|
| OPERATOR: | Warrego Energy Pty Ltd |
| PROJECT / WELL NAME: | Yuna East-1 and Yuna West-1 Exploration Wells (Permit EP 512) |
| SYSTEM: | Drilling Fluids & Completion Brine |
| TOTAL VOLUME OF SYSTEM ($m^3$): | 2040 $m^3$ (includes 50% contingency volume) EACH WELL |

**B. PRODUCT LIST** [1]

| Trade name | Supplier | Purpose | Toxicity & Eco toxicity Info | % Product in system fluid | SDS Attached |
|---|---|---|---|---|---|
| Water | N/A | Base Fluid | Bore water sourced onsite | 68.12% | N |
| Barite / API Barite | Newpark | Weighting Agent | **Constituents:**<br>BARIUM SULPHATE<br>QUARTZ (CRYSTALLINE SILICA)<br>**Toxicity:**<br>Low toxicity. Under normal conditions of use, adverse health effects are not anticipated.<br>QUARTZ (SILICA CRYSTALLINE) (14808-60-7).<br>LCLo (inhalation) 300 ug/$m^3$/10 years (human).<br>TCLo (inhalation) 16 000 000 particles/ft3/8 hours/17.9 years (human-fibrosis).<br>**Aquatic Toxicity:**<br>Fish Toxicity LC50 (Rainbow trout) > 7500 ppm/96hrs.<br>LC50 (Fresh Water Trout) > 21,000 ppm/96hrs.<br>LC50 (Salt Water StickleBack) > 56,000 ppm/96hrs.<br>**Biodegradation/bioaccumulation:**<br>Barium sulphate (major ingredient of barite (60-100%)) is insoluble in water and not biodegradable. | 0.19% | Y |

[1] **Contingent chemicals are highlighted grey.**

| B. PRODUCT LIST [1] | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | Not expected to bioaccumulate.<br>This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.<br>OCNS Rated E - 24310, Exp 09/08/2021. | | |
| NewGel / Bentonite / Maxigel / API Bentonite | Newpark | Viscosifier | **Constituents:**<br>BENTONITE<br>QUARTZ (CRYSTALLINE SILICA)<br>SODA ASH<br>**Toxicity:**<br>The main component/s of this product are not anticipated to cause any adverse effects to plants or animals.<br>QUARTZ (SILICA CRYSTALLINE) (14808-60-7).<br>LCLo (inhalation) 300 ug/m³/10 years (human).<br>TCLo (inhalation) 16 000 000 particles/ft3/8 hours/17.9 years (human-fibrosis).<br>BENTONITE (1302-78-9).<br>LD50 (intravenous) 35 mg/kg (rat).<br>LD50 (oral): >2000mg/kg (rat).<br>LDLo (intravenous) 10 mg/kg (dog).<br>Inhalation LC 50: >5.27 mg/L, 4hr (rat).<br>**Ecotoxicity Data:**<br>Bentonite (1302-78-9).<br>EC50 Daphnia > 100 mg/l, 48 hours.<br>EC50 Freshwater algae > 100 mg/l, 72 hours.<br>LC50 Freshwater fish 16000 mg/l, 96 hours.<br>LC 50 Marine water fish 2800 - 3200 mg/l, 24 hours.<br>EC50 Coon stripe shrimp (Pandalus danae) 24.8 mg/l, 96 hours.<br>EC 50 Dungeness or edible crab (Cancer magister) 81.6 mg/l, 96 hours.<br>LC50 Rainbow trout, donaldson trout (Oncorhynchus mykiss) 19000 mg/l, 96 hours.<br>**Persistence and degradability:**<br>Not relevant for inorganic substances.<br>**Mobility**:<br>Low water solubility, expected to sink and migrate into the sediment. Expected to partition to sediment and wastewater solids.<br>**Bioaccumulation**:<br>Will not bio-accumulate.<br>**Other adverse effects:** | 2.00% | Y |

| B. PRODUCT LIST [1] | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. OCNS Rated E - 26210 Exp 01/02/2021 | | |
| Potassium Chloride | Newpark | Shale swelling inhibition (smectite & illite clays) | **Constituents:**<br>POTASSIUM CHLORIDE<br>**Toxicity:**<br>**Acute toxicity:**<br>LD50 (Ingestion): 1500 mg/kg (mouse).<br>LD50 (Intraperitoneal): 620 mg/kg (mouse).<br>LD50 (Intravenous): 117 mg/kg (mouse).<br>LDLo(Ingestion): 20 mg/kg (man).<br>LDLo (Intraperitoneal):900 mg/kg (guinea pig).<br>LDLo (Intravenous): 77 mg/kg (guinea pig).<br>LDLo (Subcutaneous): 2120 mg/kg (frog).<br>TDLo (Ingestion): 60 mg/kg/days (woman).<br>**Ecotoxicity:**<br>In short-term acute toxicity tests with fish, daphnia and algae the following results were found (lowest test result values):<br>• *Ictalurus punctulus* 48h-LC50 = 720 mg/l;<br>• *Daphnia magna*: 48h-LC50 = 177 mg/l; and<br>• *Nitzschia linearis*: 120 h-EC50 = 1337 mg/l.<br>A chronic reproductive test with the invertebrate *Daphnia magna* gave a LOEC of 101 mg/l. All the studies compiled on the acute and chronic aquatic toxicity were > 100 mg/L. Thus, it is concluded that KCl is not hazardous to freshwater organisms.<br>Taking into considerations the background concentrations of KCl in seawater (380 mg/l K+ and 19,000 mg/l Cl-), it is concluded that there is no reason for further investigations of KCl on marine species.<br>The low concern for the environment is supported by the absence of a bioaccumulation potential for the substance.<br>**Biodegradation/Bioaccumulation:**<br>Biodegradability does not pertain to inorganic substances. Does not bioaccumulate. Mobile in Soil: No impact if small amount is released to the soil.<br>OCNS Rated E - 24330, Exp 11/03/2021. | 3.66% | Y |
| Calcium Carbonate Various Grades – TrueCarb's, Limestone t / Circal's | Newpark | Bridging & Weighting Agent | CONSTITUENT 1 (>96%)<br>**Toxicology Data:**<br>Oral Toxicity (LD50) – > 5000 mg/kg (rat).<br>CONSTITUENT 2 (<1%). | 2.93% | Y |

| B. PRODUCT LIST [1] | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| / Unical C300C, Omyacarb's | | | **Toxicology Data:**<br>LCLo (inhalation) = 300 ug/m³/10 years (human).<br>TCLo (inhalation) = 16 000 000 particles/ft3/8 hours/17.9 years (human-fibrosis).<br>**Ecotoxicity Data:**<br>Calcium carbonate occurs naturally in a wide variety of substances including limestone, marble and egg shells. It is not anticipated to cause adverse environmental effects.<br>**Biodegradation/Bioaccumulation:**<br>This product does not bioaccumulate. | | |
| Salt (Sodium Chloride all grades) | Newpark | Weighting Agent | **Constituents:**<br>SODIUM CHLORIDE<br>INORGANIC SALT(S)<br>WATER<br>**Toxicity: Acute toxicity:**<br>LC50 (Inhalation): > 42000 mg/m3/1 hour (rat).<br>LD50 (Ingestion): 3000 mg/kg (rat).<br>LD50 (Skin): > 10000 mg/kg (rabbit).<br>**Ecotoxicity:**<br>LC50 (water flea) is 2122 mg/L/48 hours.<br>LC50 (fathead minnow) is 6.57 g/L/96 hours.<br>This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.<br>**Biodegradation/Bioaccumulation:**<br>Biodegradability does not pertain to inorganic substances.<br>Does not bioaccumulate. | 19.80% | Y |
| NewZan D/Xanthan gum | Newpark | Viscosifier | **Constituents:**<br>XANTHAM GUM<br>WATER<br>**Toxicity: Acute toxicity:**<br>LD50 (oral) > 1000 mg/kg (mouse).<br>LD50 (oral) > 45,000 mg/kg (rat).<br>LD50 (oral) > 20,000 mg/kg (dog).<br>LD50 (intraperitoneal): > 50 mg/kg (mouse).<br>LD50 (intravenous): 100-250 mg/kg (mouse).<br>**Biodegradation/Bioaccumulation:** | 0.43% | Y |

| B. PRODUCT LIST [1] | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities. Not expected to bioaccumulate.<br>OCNS Rated E - 26280, Exp 22/02/2021. | | |
| NewPac LV / NewPac PLV / Drispac SL | Newpark | Fluid Loss | **Constituents:**<br>SODIUM CARBOXYMETHYL CELLULOSE<br>SODIUM CHLORIDE<br>WATER<br>SODIUM GLYCOLATE<br>**Toxicity: Acute toxicity data available for ingredients:**<br>SODIUM CARBOXYMETHYL CELLULOSE (9004-32-4).<br>LD50 (Ingestion): 16000 mg/kg (guinea pig).<br>LD50 (Skin): > 2000 mg/kg (rabbit).<br>TDLo (Ingestion): 140 mg/kg (rat).<br>SODIUM CHLORIDE (7647-14-5).<br>LC50 (Inhalation): > 42000 mg/m3/1 hour (rat).<br>LD50 (Ingestion): 3000 mg/kg (rat).<br>LD50 (Intraperitoneal): 2602 mg/kg (mouse).<br>LD50 (Intravenous): 645 mg/kg (mouse).<br>LD50 (Skin): > 10000 mg/kg (rabbit).<br>LD50 (Subcutaneous): 3000 mg/kg (mouse).<br>LDLo (Ingestion): 8000 mg/kg (rabbit).<br>LDLo (Intravenous): 300 mg/kg (guinea pig).<br>LDLo (Subcutaneous): 2160 mg/kg (guinea pig).<br>TDLo (Ingestion): 12357 mg/kg (human).<br>SODIUM GLYCOLATE (2836-32-0).<br>LD50 (Ingestion): 6700 mg/kg (mouse).<br>LDLo (Ingestion): 500 mg/kg (cat).<br>**Ecotoxicity:**<br>LC50 (Fresh Water Trout) > 21,000 ppm/96hrs.<br>LC50 (Salt Water StickleBack) > 56,000 ppm/96hrs.<br>**Biodegradation/Bioaccumulation:**<br>This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities. Not expected to bioaccumulate.<br>NewPac LV - OCNS Rated E - 28129, Exp 18/05/2021. | 0.52% | Y |
| DynaFiber AP Fine & DynaFiber AP Med / NDFT 376 & NDFT 377 | Newpark | Prevent lost circulation | **Constituents:**<br>ORGANIC FIBRE(S)<br>Not classified as hazardous according to Safe Work Australia criteria. | 0.05% | Y |

| B. PRODUCT LIST [1] | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | **Toxicity:**<br>This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated.<br>Oral Toxicity (LD50) > 5000 mg/kg (rat).<br>Dermal Toxicity (LD50) > 2000 mg/kg (rabbit).<br>**Biodegradation/Bioaccumulation:**<br>No information provided. | | |
| Ancor 1 | Newpark | Corrosion Inhibitor | CONSTITUENT 1 (68-72%)<br>**Toxicology Data:**<br>Oral Toxicity (LD50) 6400 mg/kg (rat).<br>Dermal Toxicity (LD50) > 2000 mg/kg (rabbit).<br>LD50 (Ingestion): 2200 mg/kg (rabbit).<br>LD50 (Intraperitoneal): 1450 mg/kg (mouse).<br>LD50 (Skin): > 20 mL/kg (rabbit).<br>TDLo (Ingestion): 16 g/kg/64 weeks (mouse - cancer).<br>**Ecotoxicity Data**:<br>LC50 (shrimp): > 100 ppm.<br>Biodegradation/bioaccumulation:<br>Not expected to bioaccumulate.<br>CONSTITUENT 2 (28-32%).<br>Non-hazardous ingredient. | 0.04% | Y |
| AvaPolymer 5050 | Newpark | Encapsulating Agent - provides shale inhibition | **Constituents:**<br>Not applicable – Non-hazardous ingredients.<br>**Hazard Identification:**<br>Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).<br>Constituent 1 – 60%)<br>ATEmix (oral) 27,000.00 mg/kg<br>ATEmix (dermal) 2,002.00 mg/kg<br>Constituent 2 –(40%)<br>Oral Toxicity (LD50) 16000 mg/kg (guinea pig)<br>Dermal Toxicity (LD50) > 2000 mg/kg rabbit)<br>TDLo (oral) 140 mg/kg (rat)<br>**Ecotoxicity:** | 0.15% | Y |

| B. PRODUCT LIST [1] | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | The environmental impact of this product has not been fully investigated.<br>100% of the mixture consists of component(s) of unknown hazards on the aquatic environment.<br>This product has an CEFAS OCNS Gold rating. Registration number 27397<br>**Biodegradation/Bioaccumulation:**<br>No information available. | | |
| Caustic Soda | Newpark | pH control-prevents bacteria & corrosion. | **Constituents:**<br>SODIUM HYDROXIDE<br>**Toxicity:**<br>Toxicity Data available for the ingredients:<br>SODIUM HYDROXIDE (1310-73-2):<br>LD50 (Intraperitoneal): 40 mg/kg (mouse).<br>LDLo (Ingestion): 1.57 mg/kg (human).<br>SILICA, AMORPHOUS (7631-86-9):<br>LD50 (ingestion): 3160 mg/kg (rat).<br>**Biodegradation/Bioaccumulation:**<br>Biodegradability does not pertain to inorganic substances. Does not bioaccumulate. WATER: If released to waterways, alkaline products may change the pH of the waterway. Fish will die if the pH reaches 10-11 (goldfish 10.9, bluegill 10.5). SOIL: May leach to groundwater with toxic effects on aquatic life as above. ATMOSPHERE: Not expected to reside in the atmosphere. Drops or particles released to atmosphere should be removed by gravity and/or be rained out.<br>OCNS category and registration number E – 24316. | 0.10% | Y |
| Sodium Sulphite | Newpark | Oxygen Scavenger | **Constituents:**<br>SODIUM SULPHITE<br>SODIUM SULPHATE<br>SODIUM CARBONATE<br>WATER<br>**Toxicity:**<br>**Acute toxicity:**<br>LD50 (Ingestion): 820 mg/kg (mouse).<br>LD50 (Intraperitoneal): 950 mg/kg (mouse).<br>LD50 (Intravenous): 175 mg/kg (mouse).<br>LDLo (Ingestion): 2825 mg/kg (rabbit).<br>LDLo (Intravenous): 400 mg/kg (cat).<br>LDLo (Subcutaneous): 600 mg/kg (rabbit).<br>SODIUM CARBONATE (497-19-8). | 0.16% | Y |

| B. PRODUCT LIST [1] | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | LC50 (inhalation) 800 mg/m³/2 hours (guinea pig).<br>LD50 (ingestion) 4090 mg/kg (rat).<br>LD50 (intraperitoneal) 117 mg/kg (mouse).<br>LD50 (subcutaneous) 2210 mg/kg (mouse).<br>SODIUM SULPHATE (7757-82-6).<br>LD50 (ingestion) 5989 mg/kg (mouse).<br>LD50 (intravenous) 1220 mg/kg (rabbit).<br>LDLo (intravenous) 1220 mg/kg (mouse).<br>TDLo (ingestion) 14 g/kg (mouse - 8-12 days pregnant).<br>TDLo (subcutaneous) 806 mg/kg/26 weeks intermittently (mouse).<br>**Biodegradation/Bioaccumulation:**<br>Biodegradability does not pertain to inorganic substances. Does not bioaccumulate.<br>OCNS category and registration number E – 26232. | | |
| Soda Ash | Newpark | pH / Hardness control | **Constituents:**<br>SODIUM CARBONATE<br>**Toxicity:**<br>LD50 (Ingestion): 4090 mg/kg (rat).<br>LC50 (Inhalation): 800 mg/m3/2 hours (guinea pig).<br>LD50 (Intraperitoneal): 117 mg/kg (mouse).<br>LD50 (Subcutaneous): 2210 mg/kg (mouse).<br>**Ecotoxicity:**<br>Fishes, Lepomis macrochirus, LC50, 96 h, 300 mg/l<br>Crustaceans, Ceriodaphnia dubia, EC50, 48 h, 200 - 227 mg/l.<br>**Biodegradation/Bioaccumulation:**<br>Biodegradability does not pertain to inorganic substances. Does not bioaccumulate. WATER: If released to waterways, alkaline products may change the pH of the waterway. Fish will die if the pH reaches 10-11 (goldfish 10.9, bluegill 10.5). SOIL: May leach to groundwater with toxic effects on aquatic life as above. ATMOSPHERE: Not expected to reside in the atmosphere. Drops or particles released to atmosphere should be removed by gravity and/or be rained out.<br>OCNS category and registration number E – 26180**.** | 0.11% | Y |
| Sodium Bicarbonate | Newpark | pH Buffer, Contamination Treatment | **Constituents:**<br>SODIUM BICARBONATE<br>**Toxicity: Acute toxicity:**<br>LD50 (Ingestion): 3360 mg/kg (mouse)<br>LC50 (inhalation): 4.74 mg/L (rat)<br>**Ecotoxicity:** | 0.15% | Y |

| B. PRODUCT LIST [1] | | | | | |
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| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | Fishes, Lepomis macrochirus, LC50, 96 h, 300 mg/l<br>Crustaceans, Ceriodaphnia dubia, EC50, 48 h, 200 - 227 mg/l<br>Ecotoxicity Data:<br>LC50 (Oncorhynchus mykiss), 96 h, 7.700 mg/l<br>LC50 (Lepomis macrochirus), 96 h, 7.100 mg/l<br>EC50 (Crustaceans, Daphnia magna) 48 h, 4.100 mg/l<br>LOEC (Crustaceans, Daphnia magna) 48 h, 3.100 mg/l<br>**Biodegradation/Bioaccumulation:**<br>Biodegradability does not pertain to inorganic substances. Not expected to bioaccumulate.<br>This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.<br>**OCNS category and registration number E - 26175** | | |
| Idcide-20 | Newpark | Biocide/Prevents bacterial contamination of the mud | **Constituents:**<br>TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULPHATE (2:1)<br>WATER<br>**Toxicity:**<br>Toxicity data available for ingredient:<br>TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULPHATE (55566-30-8).<br>LD50 (ingestion) 248 mg/kg (rat).<br>TDLo (ingestion) 650 mg/kg/13 weeks - intermittent (rat).<br>**Ecotoxicity:**<br>75% TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULPHATE (55566-30-8):<br>LC50 (Rainbow Trout) = 119 mg/L/96 hr.<br>LC50(Bluegill Sunfish) = 93 mg/L/ 96 hr.<br>EC50 (Daphnia Magna) = 19 mg/L/48 hr.<br>LC50 (Brown Shrimp) = 340 mg/L/96 hr.<br>LC50 (Mysid Shrimp) = 9.5 mg/L/96 hr.<br>LC50 (Sheepshead Minnow) = 94 mg/L/96 hr.<br>LC50 (Jevenile Plaice) = 86 mg/L/96 hr.<br>Waste Water management EC50 (Activated Sludge) = 24 mg/L/3 hr.<br>**Persistence and degradability:**<br>This product is readily biodegradable.<br>http://www.inchem.org/documents/ehc/ehc/ehc218.htm | 0.09% | Y |
| Citric Acid | Newpark | pH Buffer | **Constituents:** | 0.03% | Y |

| B. PRODUCT LIST [1] | | | | | |
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| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | CITRIC ACID<br>WATER<br>**Toxicity: Acute toxicity:**<br>LD50 (Ingestion): 3000 mg/kg (rat).<br>LD50 (Intraperitoneal): 290 mg/kg (rat).<br>LD50 (Intravenous): 42 mg/kg (mouse).<br>LDLo (Ingestion): 7000 mg/kg (rabbit).<br>**Ecotoxicity:**<br>LC50 (Leuciscus idus melanotus): 440 mg/L - 48 h.<br>LC 50 (Daphnia magna) (Water flea) - 1.535 mg/L - 24 h.<br>**Biodegradation/Bioaccumulation:**<br>Readily Biodegradability. Does not bioaccumulate.<br>If citric acid is released to water, it is expected to biodegrade rapidly. May be toxic to fish at moderately high levels (120 ppm is fatal to daphnia; 894 ppm with pH 4 is fatal to goldfish) due to acidic nature. Fairly high biological oxygen demand (BOD) which may cause oxygen depletion in large spills. Citric acid occurs naturally in many plants.<br>OCNS category and registration number E - 24317 | | |
| Magnesium Oxide | Newpark | pH Indicator | **Constituents:**<br>MAGNESIUM OXIDE<br>CALCIUM OXIDE<br>SILICON DIOXIDE (SILICA, AMORPHOUS)<br>Not classified as hazardous according to Safe Work Australia criteria.<br>**Toxicity:**<br>Acute toxicity: This product is expected to be of low toxicity.<br>**Ecotoxicity:**<br>No information provided.<br>**Bioaccumulation/Biodegradation:**<br>No information provided.<br>OCNS category and registration number E – 28127. | 0.05% | Y |
| TEA | Newpark | Polymer stabiliser which effectively reduces the degradation of polymers at high temperatures | **Constituents:**<br>TRIETHANOLAMINE<br>DIETHANOLAMINE<br>**Toxicity:**<br>Acute toxicity:<br>CONSTITUENT 1 (>60%) | 0.12% | Y |

| B. PRODUCT LIST [1] | | | | | |
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| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | Oral Toxicity (LD50) 2200 mg/kg (rabbit).<br>Dermal Toxicity (LD50) > 20 mL/kg (rabbit).<br>CONSTITUENT 2 (10 – 30%)<br>Oral Toxicity (LD50) 620 uL/kg (rat).<br>Dermal Toxicity (LD50) > 20 mL/kg (rabbit).<br>CONSTITUENT 3 (<10%) Component is naturally occurring and not intrinsically hazardous.<br>**Biodegradation/Bioaccumulation:**<br>The substance is expected to be readily biodegradable according to the AS 4351 Part 2 test method. In soil and water, triethanolamine will biodegrade fairly rapidly following acclamation (half-life in the order of days to weeks). In soil, residual triethanolamine may leach to groundwater. LC50 (shrimp): > 100 ppm. | | |
| Driscal D | Newpark | High temperature polymer | **Constituents:**<br>Not applicable – Non-hazardous ingredients.<br>Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).<br>**Toxicity:**<br>LCLo (Inhalation): 300 ug/m3/10 years (human), LDLo (Intratracheal): 200 mg/kg (rat) LDLo (Intravenous): 20 mg/kg (dog), TCLo (Inhalation): 16 000 000 particles /ft3 / 8 hours/17.9 years (human-fibrosis)<br>The product contains no substance classified as hazardous to health in concentrations which should be taken into account.<br>**Bioaccumulation:**<br>Accumulation in aquatic organisms is unlikely.<br>**Biodegradability:**<br>Taking into consideration the properties of several ingredients, the product is estimated not to be readily biodegradable according to OECD classification. | 0.03% | Y |
| CleanTrol | Newpark | Fluid Loss control | **Toxicology Data:**<br>Low toxicity - low irritant. Under normal conditions of use, adverse health effects are not anticipated.<br>**Ecotoxicity Data:**<br>This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.<br>**Biodegradation/bioaccumulation:**<br>Not expected to bioaccumulate.<br>OCNS category and registration number E - 28966 | 0.49% | Y |

| B. PRODUCT LIST [1] | | | | | |
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| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| Gagetrol | Newpark | HT Fluid Loss | **Constituents:**<br>CARBOXYMETHYL STARCH<br>Not classified as hazardous according to Australian WHS Regulations.<br>**Toxicity:**<br>Low toxicity - low irritant. Under normal conditions of use, adverse health effects are not anticipated.<br>**Ecotoxicity:**<br>This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.<br>**Biodegradation/Bioaccumulation:**<br>Not expected to bioaccumulate.<br>OCNS category and registration number Gold - 27759 | 0.03% | Y |
| JK-161 LV / JK-261 / JK-261HP (NewPHPA DLMW) | Newpark | Encapsulating Agent - provides shale inhibition | **Constituents:**<br>ACRYLAMIDE, SODIUM ACRYLATE COPOLYMER<br>WATER<br>**Toxicity:**<br>This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated.<br>LD50 rat (oral): > 2,000 mg/kg (OECD Guideline 401).<br>**Ecotoxicity:**<br>(10000 ppm test concentration) (EPA-821-R-02-012) Mysidopsis bahia = 48hr LC50 = 16.2 mg/L. Menidia beryllina = 48hr LC50 = 34.2 mg/L. Scophthalmus Maximus = 96hr LC50 > 1000 mg/L. Skeletonemia costatum = 72hr EC50 = 393 mg/L [NOEC = 118 mg/L] Acartia tonsa = 48 hr EC50 = 393 mg/L [NOEC = 112 mg/L] Corophium Volutator = 10 Day LC50 = 9338 mg/Kg [NOEC = 1000 mg/Kg].<br>**Biodegradation/Bioaccumulation:**<br>Not readily biodegradable (by OECD criteria).<br>Based on its structural properties, the polymer is not biologically available.<br>Accumulation in organisms is not to be expected. | 0.07% | Y |
| Defoam-AP400 | Newpark | Defoamer suitable for High Temperatures | **Constituents:**<br>POLYETHYLENE GLYCOL<br>OCTAN-2-OL<br>Not classified as hazardous according to Safe Work Australia criteria.<br>**Toxicity:** | 0.05% | Y |

| B. PRODUCT LIST [1] | | | | | |
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| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | Low toxicity - low irritant. This product has the potential to irritate mucous membranes. Use safe work practices to avoid eye or skin contact and inhalation. Due to the low vapour pressure of this product, an inhalation hazard is not anticipated with normal use. Chronic exposure to some glycols may result in liver and kidney damage.<br>POLYETHYLENE GLYCOL (25322-68-3) LD50 (ingestion) 33750 mg/kg (rat).<br>**Ecotoxicity:**<br>No information provided.<br>**Biodegradation/Bioaccumulation:**<br>No information provided.<br>ATMOSPHERE: Vapour phase glycols are expected to degrade fairly rapidly by reaction with hydroxyl radicals (eg half-life 32 hours for propylene glycol). Removal from air by rainfall is possible. WATER: Should degrade relatively rapidly via biodegradation. SOIL: If released to soil, relatively rapid biodegradation should also occur. Leaching to groundwater may occur. | | |
| | | | **Total** | **100%** | |
| Ancor 1 | Newpark | Corrosion Inhibitor | CONSTITUENT 1 (68-72%)<br>**Toxicology Data:**<br>Oral Toxicity (LD50) 6400 mg/kg (rat)<br>Dermal Toxicity (LD50) > 2000 mg/kg (rabbit)<br>LD50 (Ingestion): 2200 mg/kg (rabbit)<br>LD50 (Intraperitoneal): 1450 mg/kg (mouse)<br>LD50 (Skin): > 20 mL/kg (rabbit)<br>TDLo (Ingestion): 16 g/kg/64 weeks (mouse - cancer)<br>**Ecotoxicity Data:**<br>LC50 (shrimp): > 100 ppm.<br>**Biodegradation/bioaccumulation:**<br>Not expected to bioaccumulate.<br>CONSTITUENT 2 (28-32%)<br>Non-hazardous ingredient. | 0.04% | Y |
| AVADEFOAM NS | Newpark | Defoamer suitable for WBM | **Constituents:**<br>Not applicable – Non-hazardous ingredients.<br>Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).<br>**Toxicity:** | 0.03% | Y |

| B. PRODUCT LIST [1] | | | | | |
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| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | CONSTITUENT 1 (95%) - Acute toxicity - Acute oral toxicity (LD50): 9380 mg/kg [Rat].<br>**Ecotoxicity:**<br>Ecotoxicity in water (LC50): 100 mg/l 96 hours [Fish]. Possibly hazardous short-term degradation products are not likely. However, long term degradation products may arise. The product itself and its products of degradation are not toxic.<br>**Toxicity:**<br>CONSTITUENT 2 (5%) - Acute toxicity - Dermal LD50 Albino rabbit - > 2000 mg/kg, 14 days At this dose no death occurred. LD50 Oral Albino Sprague-Dawley rat > 10000 mg/kg, 14 days At this dose no death occurred.<br>**Ecotoxicity:**<br>Product Information: Product does not present an acute toxicity hazard based on known or supplied<br>information.<br>The following values are calculated based on chapter 3.1 of the GHS document ATEmix (oral) 10,010.00 mg/kg.<br>The product is not classified as environmentally hazardous.<br>Components Species Test Results Tall Oil Fatty Acids<br>EC50 Bacteria (*Pseudomonas putida*) > 10000 mg/l, 16 hr<br>Aquatic Algae EL50 > 1000 mg/l, 72 hr Growth rate; OECD 201<br>Green algae (*Selenastrum capricornutum*)<br>Crustacea EL50 Water flea (*Daphnia magna*) > 1000 mg/l, 48 hr OECD 202<br>Fish LL50 Zebra danio (*Danio rerio*) > 10000 mg/l, 96 hr<br>95 % of the mixture consists of component(s) of unknown hazards to the aquatic environment<br>**Biodegradation/Bioaccumulation:**<br>Percent degradation (Aerobic biodegradation)<br>Tall Oil Fatty Acids 88 - 100 % $CO_2$ Evolution Test<br>Species: Activated sewage sludge Test Duration: 28 days<br>OCNS category and registration number Gold - 27915 | | |
| New Perm NF / AvaPerm NF | Newpark | Prevent swelling clays by blocking the site for water hydration. | An equivalent product to AVAPERM NF has been registered on the CEFAS Offshore Chemical Notification Scheme with a 'Gold' rating & Registration # 24780<br>**Constituents (mixture):**<br>HEXANEDINITRILE, HYDROGENATED, HIGH-BOILING FRACTION – (30 to 50%)<br>HYDROCHLORIC ACID (<15%)<br>NON-HAZARDOUS INGREDIENTS – (Remainder)<br>**Toxicity:** | 0.80% | Y |

| B. PRODUCT LIST [1] | | | | | |
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| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | Skin corrosion/irritation: Not corrosive (B.40 Bis - Reg. 440/2008/EC).<br>Skin contact: Harmful and irritant.<br>Eye contact: Irritant.<br>Inhalation: Irritant.<br>Ingestion: Harmful.<br>Acute oral toxicity on rats (LD50): > 500 < 1000 mg/kg.* (based on components)<br>Following information is confidential:<br>**Ecotoxicity:**<br>EC 50 (Skeletonema costatum) 54.4 mg/l<br>LC50 (Acartia tonsa) 52.4 mg/l<br>LC50 (Scophthalmus maximus juvenile) >51.0 mg/l<br>**Biodegradation/Bioaccumulation:**<br>Biodegradation Seawater test OECD 306 75 %<br>Bioaccumulation OECD 117 LogPow ≤ 1.36 | | |
| Barite / API Barite | Newpark | Weighting Agent | See Above | 6.49% | Y |
| TrueScav HD | Newpark | Oxygen Scavenger Non-sulphur based, | **Constituents:**<br>SODIUM ERYTHORBATE<br>**Toxicity:**<br>Constituent 1 – (>99%) The following values are calculated based on chapter 3.1 of the GHS document ATEmix (oral) 5,005.00 mg/kg Oral LD50 > 5 g/kg (Ra )<br>**Ecotoxicity:**<br>The environmental impact of this product has not been fully investigated. Unknown aquatic toxicity. 100 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.<br>Biodegradation/Bioaccumulation:<br>Persistence/Degradability: Possibly hazardous short-term degradation products are not likely; However, long term degradation products may arise. | 0.02% | Y |
| Thinpol | Newpark | Liquid dispersant | CONSTITUENT 1 (30-60%)<br>**Toxicology Data:**<br>This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated<br>Oral Toxicity LD50 2500 mg/kg (rat)<br>LD50 (intraperitoneal) 39 mg/kg (mouse)<br>LD50 (intravenous) 70 mg/kg (mouse) | 0.10% | Y |

| B. PRODUCT LIST [1] | | | | | |
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| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | CONSTITUENT 2 (<100%)<br>**Toxicology Data:**<br>Non-hazardous ingredient.<br>**Ecotoxicity Data:**<br>(10000 ppm test concentration) (EPA-821-R-02-012) Mysidopsis Bahia = 48HR LC50 = 16.2mg/L.<br>Menidia Beryllina = 48hr LC50 = 34.2 mg/L.<br>Scophthalmus Maximus = 96hr LC50 > 1000 mg/L.<br>Skeletonemia Costatum = 72hr EC50 = 393 mg/L [NOEC = 118 mg/L]<br>Acartia Tonsa = 48hr EC50 = 393 mg/L [NOEC = 112 mg/L]<br>Corophium Volutator = 10 day LC50 = 9338 mg/Kg [NOEC = 1000mg/Kg]<br>**Biodegradation/bioaccumulation:**<br>No information available. | | |
| NDFT 376 & 377 (DynaFiber AP Fine & Dynafiber AP Med / Fine) | Newpark | Prevent lost circulation | **Toxicology Data:**<br>Oral LD50 > 5000 mg/kg (rat)<br>Dermal LD50 > 2000 mg/kg (rabbit)<br>Inhalation LC50 > 5800 mg/m³/4 hours (rat)<br>**Ecotoxicity Data:**<br>No information available.<br>**Biodegradation/bioaccumulation:**<br>No information available. | 0.11% | Y |
| Calcium Chloride (94%) Powder | Newpark | Weighting Agent | **Constituents:**<br>CALCIUM CHLORIDE ANHYDROUS<br>SODIUM CHLORIDE<br>WATER<br>**Toxicity:**<br>Acute toxicity: Based on available data, the classification criteria are not met.<br>**Toxicity Data available for the ingredients:**<br>CALCIUM CHLORIDE ANHYDROUS (10043-52-4)<br>LD50 (Ingestion): 1000 mg/kg (rat)<br>LD50 (Intraperitoneal): 210 mg/kg (mouse)<br>LD50 (Intravenous): 42 mg/kg (mouse)<br>LD50 (Subcutaneous): 823 mg/kg (mouse)<br>LDLo (Ingestion): 1384 mg/kg (rabbit)<br>LDLo (Intravenous): 150 mg/kg (guinea pig) | 0.07% | Y |

| B. PRODUCT LIST [1] | | | | | |
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| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | LDLo (Subcutaneous): 249 mg/kg (cat)<br>TDLo (Intravenous): 20 mg/kg/1 hour (woman)<br>SODIUM CHLORIDE (7647-14-5)<br>LC50 (Inhalation): > 42000 mg/m3/1 hour (rat)<br>LD50 (Ingestion): 3000 mg/kg (rat)<br>LD50 (Intraperitoneal): 2602 mg/kg (mouse)<br>LD50 (Intravenous): 645 mg/kg (mouse)<br>LD50 (Skin): > 10000 mg/kg (rabbit)<br>LD50 (Subcutaneous): 3000 mg/kg (mouse)<br>LDLo (Ingestion): 8000 mg/kg (rabbit)<br>LDLo (Intravenous): 300 mg/kg (guinea pig)<br>LDLo (Subcutaneous): 2160 mg/kg (guinea pig)<br>TDLo (Ingestion): 12357 mg/kg (human)<br>**Ecotoxicity:**<br>No information provided.<br>**Biodegradation/Bioaccumulation:**<br>Biodegradability does not pertain to inorganic substances. Does not bioaccumulate. | | |
| MEG (AvaGlycol) | Newpark | Agent to free differentially stuck pipe | **Constituents:**<br>ETHYLENE GLYCOL<br>**Toxicity:**<br>Toxicity data available for ingredient:<br>ETHYLENE GLYCOL (107-21-1)<br>LC50 (inhalation) 10 876 mg/kg (rat)<br>LD50 (ingestion) 1650 mg/kg (cat)<br>LD50 (skin) 9530 ug/kg (rabbit)<br>LDLo (ingestion) 398 mg/kg (human)<br>TCLo (inhalation) 10,000 mg/m³ (human - cough)<br>TDLo (ingestion) 5500 mg/kg (child - anaesthesia)<br>Ethylene glycol will mainly exist in the vapour phase in the ambient atmosphere where it will be degraded by reaction with hydroxyl radicals. Expected to be very highly mobile in soil. Not anticipated to volatilise from moist soil or water surfaces.<br>**Ecotoxicity:**<br>LC50 (Aquatic species): >100mg/L/96hrs. Non-hazardous to aquatic organisms.<br>**Biodegradation/Bioaccumulation:**<br>Biodegradation in both soil and water is expected to be a major fate process for this compound. Not expected to bioconcentrate in aquatic organisms.<br>Safe Work Australia Exposure Standards:<br>http://hsis.ascc.gov.au/DocumentationES.aspx?ID=722<br>http://hsis.ascc.gov.au/DocumentationES.aspx?ID=271<br>**CICADS Available:** | 0.33% | Y |

| B. PRODUCT LIST [1] | | | | | |
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| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | http://inchemsearch.ccohs.ca/inchem/jsp/search/search.jsp?inchemcasreg=1&Coll=inchemall&serverSpec=19vailab.ccohs.ca%3A9900&QueryText1=107-21-1&QueryText2=&Search.x=52&Search.y=10 | | |
| Strata-Vanguard | Newpark | Bridging Agent | **Constituents:**<br>CELLULOSE<br>DIATOMACEOUS EARTH, FLUX CALCINED<br>FULLERS EARTH<br>LIMESTONE (CALCIUM CARBONATE)<br>CRISTOBALITE<br>QUARTZ (CRYSTALLINE SILICA)<br>MAGNESIUM OXIDE<br>1,3 BUTADIENE/STYRENE COPOLYMERS<br>2-PROPENENITRILE-1,3-BUTADIENE RUBBER<br>NATURAL RUBBER<br>POLYISOPRENE<br>POLYETHYLENE<br>**Toxicity: Toxicity data available for the ingredients:**<br>CRISTOBALITE (14464-46-1)<br>TCLo (inhalation) 16 mppcf/8hours/17.9 years (human-fibrosis)<br>QUARTZ (SILICA CRYSTALLINE) (14808-60-7)<br>LCLo (inhalation) 300 ug/m³/10 years (human)<br>TCLo (inhalation) 16 000 000 particles/ft3/8 hours/17.9 years (human-fibrosis)<br>CELLULOSE (9004-34-6)<br>LC50 (inhalation) > 5800 mg/m³/4 hours (rat)<br>LD50 (ingestion) > 5000 mg/kg (rat)<br>LD50 (intraperitoneal) > 31600 mg/kg (rat)<br>LD50 (skin) > 2000 mg/kg (rabbit)<br>POLYETHYLENE (9002-88-4)<br>LDLo (ingestion) 3000 mg/kg (rat)<br>MAGNESIUM OXIDE (1309-48-4)<br>TCLo (inhalation) 400 mg/kg (human)<br>**Ecotoxicity:**<br>This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.<br>Biodegradation/Bioaccumulation:<br>Not expected to bioaccumulate. This product has low mobility in soil. | 0.30% | Y |
| Frac Attack | Newpark | Prevent lost circulation | **Constituents:** | 0.05% | Y |

| B. PRODUCT LIST [1] | | | | | |
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| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | CELLULOSE<br>DIATOMACEOUS EARTH<br>FULLERS EARTH<br>CALCIUM OXIDE<br>CALCIUM HYDROXIDE<br>CRISTOBALITE<br>QUARTZ (CRYSTALLINE SILICA)<br>MAGNESIUM OXIDE<br>1,3 BUTADIENE/STYRENE COPOLYMERS<br>2-PROPENENITRILE-1,3-BUTADIENE RUBBER<br>NATURAL RUBBER<br>POLYISOPRENE<br>**Toxicity:**<br>Toxicity data available for the ingredients:<br>CALCIUM HYDROXIDE (1305-62-0)<br>LD50 (ingestion) 7300 mg/kg (mouse)<br>CRISTOBALITE (14464-46-1)<br>TCLo (inhalation) 16 mppcf/8hours/17.9 years (human-fibrosis)<br>QUARTZ (SILICA CRYSTALLINE) (14808-60-7)<br>LCLo (inhalation) 300 ug/$m^3$/10 years (human)<br>TCLo (inhalation) 16 000 000 particles/ft3/8 hours/17.9 years (human-fibrosis)<br>CELLULOSE (9004-34-6)<br>LC50 (inhalation) > 5800 mg/$m^3$/4 hours (rat)<br>LD50 (ingestion) > 5000 mg/kg (rat)<br>LD50 (intraperitoneal) > 31600 mg/kg (rat)<br>LD50 (skin) > 2000 mg/kg (rabbit)<br>MAGNESIUM OXIDE (1309-48-4)<br>TCLo (inhalation) 400 mg/kg (human)<br>**Ecotoxicity:**<br>The manufacturer reports that this product is harmful to aquatic life.<br>Acute aquatic toxicity.<br>CALCIUM HYDROXIDE (1305-62-0)<br>EC50 Crustacea – 49.1 mg/L (*Daphnia magna* (water flea); 48-hour)<br>ErC50 Algae – 184.6 mg/L (*Pseudokirchneriella subcapitata* (algae); 72-hour)<br>**Biodegradation/Bioaccumulation:**<br>No information was located. | | |

| B. PRODUCT LIST [1] | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| JK-161 LV / JK-261 / JK-261HP (NewPHPA DLMW) | Newpark | Encapsulating Agent - provides shale inhibition | **Constituents:**<br>ACRYLAMIDE, SODIUM ACRYLATE COPOLYMER<br>WATER<br>**Toxicity:**<br>This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated. LD50 rat (oral): > 2,000 mg/kg (OECD Guideline 401).<br>**Ecotoxicity:**<br>(10000 ppm test concentration) (EPA-821-R-02-012)<br>*Mysidopsis bahia* = 48hr LC50 = 16.2 mg/L.<br>*Menidia beryllina* = 48hr LC50 = 34.2 mg/L.<br>*Scophthalmus Maximus* = 96hr LC50 > 1000 mg/L.<br>*Skeletonemia costatum* = 72hr EC50 = 393 mg/L [NOEC = 118 mg/L]<br>*Acartia tonsa* = 48 hr EC50 = 393 mg/L [NOEC = 112 mg/L]<br>*Corophium Volutator* = 10 Day LC50 = 9338 mg/Kg [NOEC = 1000 mg/Kg]<br>**Biodegradation/Bioaccumulation:**<br>Not readily biodegradable (by OECD criteria).<br>Based on its structural properties, the polymer is not biologically available. Accumulation in organisms is not to be expected. | 0.07% | Y |
| Driscal D | Newpark | High temperature fluid loss control agent | **Constituents**:<br>Not applicable – Contains no hazardous ingredients (substance or mixture) according to GHS.<br>**Toxicity:**<br>LCLo (Inhalation): 300 ug/m3/10 years (human), LDLo (Intratracheal): 200 mg/kg (rat) LDLo (Intravenous): 20 mg/kg (dog), TCLo (Inhalation): 16 000 000 particles/ft3/8 hours/17.9 years (human-fibrosis)<br>**Ecotoxicity:**<br>This material is not expected to be harmful to aquatic organisms.<br>**Biodegradation/Bioaccumulation:**<br>Taking into consideration the properties of several ingredients, the product is estimated not to be readily biodegradable according to OECD classification.<br>Accumulation in aquatic organisms is unlikely. | 0.02% | Y |
| Defoam-AP400 | Newpark | Defoamer suitable for High Temperatures | CONSTITUENT 1 – (45-60%)<br>**Toxicology Data:** | 0.04% | Y |

| B. PRODUCT LIST [1] | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | LD50 (ingestion) 33750 mg/kg (rat)<br>CONSTITUENT 2 – (45-50%)<br>**Toxicology Data:**<br>This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated.<br>**Ecotoxicity Data:**<br>Toxicity to Algae - No information available Toxicity to Fish – No information available Toxicity to Microorganisms - No information available Toxicity to Invertebrates – No information available<br>**Biodegradation/bioaccumulation:**<br>Component is considered not Bio accumulative. | | |
| DSCO™ Defoam | Newpark | Defoamer | **Constituents:**<br>POLYPROPYLENE GLYCOL<br>**Toxicity:**<br>This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated.<br>Not classified as hazardous according to Safe Work Australia criteria.<br>Constituent 1 (>60%)<br>Oral Toxicity: An oral LD50 300 - 57000 mg/kg (range)<br>Constituent 2 (remainder)<br>No Hazard<br>**Biodegradation/Bioaccumulation:**<br>This product is not expected to bioaccumulate. | 0.04% | Y |
| SAPP | Newpark | Deflocculate or disperse bentonite muds or fluids with high levels of low gravity solids. | **Constituents:**<br>DISODIUM PYROPHOSPHATE<br>**Toxicity:**<br>Acute toxicity: Low toxicity. Ingestion of large quantities may result in nausea, vomiting and gastrointestinal irritation.<br>Ingestion of large quantities may also result in serious disturbances in calcium metabolism.<br>LD50 (Ingestion): 2650 mg/kg (mouse)<br>LD50 (Intraperitoneal): 1 g/kg (mouse)<br>LD50 (Intravenous): 59 mg/kg (mouse)<br>LD50 (Subcutaneous): 480 mg/kg (mouse)<br>**Biodegradation/Bioaccumulation:** | 0.07% | Y |

| B. PRODUCT LIST [1] | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | Biodegradability does not pertain to inorganic substances. Does not bioaccumulate. OCNS category (actual or equivalent chemical) and Registration number. E-2449 | | |
| Sandseal Fine | Newpark | LCM | **Toxicology Data:**<br>This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects<br>**Ecotoxicity Data:**<br>No information available.<br>**Biodegradation/bioaccumulation:**<br>No information available. | 0.08% | Y |
| Calcium Carbonate Various Grades – TrueCarb's, Limestone t / Circal's / Unical C300C, Omyacarb's | Newpark | Bridging & weighting agent | **Constituents:**<br>LIMESTONE (CALCIUM CARBONATE)<br>QUARTZ (CRYSTALLINE SILICA)<br>No classified as hazardous according to Australian WHS Regulations.<br>**Toxicity:**<br>This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated.<br>LD50 (Ingestion): 6450 mg/kg (rat).<br>**Ecotoxicity:**<br>Calcium carbonate occurs naturally in a wide variety of substances including limestone, marble and eggshells. It is not anticipated to cause adverse environmental effects.<br>**Biodegradation/Bioaccumulation:**<br>Biodegradability does not pertain to inorganic substances. Dissolved calcium carbonate dissociates into calcium and carbonate ions.<br>Calcium ions will be assimilated by living organisms in the water and the carbonate will become part of the carbon cycle.<br>This product does not bioaccumulate. Due to its limited solubility, calcium carbonate precipitates and deposits on the sediment. | 0.16% | Y |
| Flexfirm KA | Newpark | Inhibits dispersion of drilled shale cuttings | **Toxicology Data:**<br>Oral Toxicity (LD50) 1600 mg/kg (rat)<br>**Ecotoxicity Data:**<br>The ecotoxicity of potassium silicate has not been tested. The following data is reported for chemically similar sodium silicates on a 100% solids basis:<br>A 96 hour median tolerance for fish (Gambusia affnis) of 2320 ppm; a 96 hour median tolerance of water fleas (Daphnia magna) of 247 ppm; a 96 hour median | 0.13% | Y |

| B. PRODUCT LIST [1] | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | tolerance for snail eggs (Lymnea) of 632 ppm; and a 96 hour median tolerance for Amphipoda of 160 ppm<br>**Biodegradation/bioaccumulation:**<br>Neither silica nor potassium will appreciably bio-concentrate up the food chain. | | |
| SPA | Newpark | High temperature fluid loss control agent | **Constituents:**<br>ACRYLATE – ACRYLAMIDE COPOLYMER<br>**Toxicology Data:**<br>This product is expected to be of low toxicity. Based on available data, the classification criteria are not met.<br>**Ecotoxicity Data:**<br>(10000ppm test concentration) (EPA-821-R-02 012)<br>Mysidopsis Bahia = 48 HR LC50 =16.2mg/L.<br>Menidia Beryllina = 48hr LC50 = 34.2mg/L.<br>Scophthalmus Maximus=96hr LC50 >1000mg/L.<br>Skeletonemia Costatum = 72hr EC50 = 393mg/L [NOEC=118mg/L]<br>Acartia Tonsa= 48hr EC50 = 393mg/L [NOEC=112mg/L]<br>Corophium Volutator= 10day LC50 = 9338 mg/Kg [NOEC=1000mg/Kg]<br>**Bioaccumulation:**<br>No information available. | 0.27% | Y |
| Fracseal F / M / C | Newpark | LCM | **Toxicology Data:**<br>Oral LD50 (rat) is > 5000 mg/kg.<br>Dermal LD50 (rabbit) is > 2000 mg/kg.<br>LC50 (rat) is 510 mg/m³/2 hours.<br>Inhalation LC50 -> 5800 mg/m³/4 hours (rat)<br>LD50 (intraperitoneal) > 31600 mg/kg (rat)<br>**Ecotoxicity Data:**<br>No information available.<br>**Biodegradation/bioaccumulation:**<br>No information available. | 0.06% | Y |
| QUICKSEAL F / M / C | Newpark | LCM / Well Bore Strengthening | **Constituents:**<br>CELLULOSE<br>**Toxicity:**<br>This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated | 0.18% | Y |

| B. PRODUCT LIST [1] | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | **Acute Toxicity:**<br>Acute Oral Toxicity: LD50 (oral) > 5000 mg/kg (rats).<br>Acute Dermal Toxicity: LD50 (dermal) > 2000 mg/kg (rats).<br>Acute Inhalation Toxicity: LC50 (Inhalation) = 5800 mg/m3/4hrs (rat).<br>**Ecotoxicity:**<br>Low toxicity to aquatic organisms.<br>**Biodegradation/Bioaccumulation:**<br>This product is readily biodegradable.<br>This product is not expected to bioaccumulate. | | |
| AvaGreenLube | Newpark | Lubricant | **Constituents:**<br>METHYL ESTERS OF FATTY ACIDS<br>**Ecotoxicity:**<br>LC50 (Fish) 48 h: > 10000 µg / L<br>LC50 (Mollusc) 48 h: > 10000 µg /L<br>LC50 (Amphibious) 48 h: > 7600 µg/L<br>**Biodegradation/Bioaccumulation:**<br>Persistence and degradability: 70% 28 days (method OECD 301 B).<br>Low potential for bioaccumulation in aquatic organisms or terrestrial even after repeated exposure.<br>It is not volatile and not expected to persist in the environment | 0.53% | Y |
| Zinc Oxide | Newpark | H2S Scavenger | **Constituents:**<br>ZINC OXIDE<br>**Toxicity:**<br>Acute toxicity: This product is expected to be of low toxicity. Based on available data, the classification criteria are not<br>met.<br>ZINC OXIDE (1314-13-2)<br>LD50 (Oral) 7950 mg/kg (mouse)<br>LC50 (Inhalation): 2500 mg/m³ (mouse)<br>Additional ingredient toxicity values:<br>LD50 (intraperitoneal) 240 mg/kg (rat)<br>LDLo (oral) 500 mg/kg (human)<br>TCLo (inhalation) 600 mg/m³ (human)<br>**Ecotoxicity:**<br>Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.<br>**Biodegradation/Bioaccumulation:** | 0.13% | Y |

| B. PRODUCT LIST [1] | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | This product is not readily biodegradable | | |
| Victosal HT | Newpark | HT Fluid Loss Additive | **Toxicology Data:**<br>Low toxicity - low irritant. Under normal conditions of use, adverse health effects are not anticipated<br>**Ecotoxicity Data:**<br>This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.<br>**Biodegradation/bioaccumulation:**<br>Not expected to bioaccumulate. | 0.05% | Y |
| Victosal NS | Newpark | Modified Starch | **Toxicology Data:**<br>This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated.<br>**Ecotoxicity Data:**<br>This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.<br>**Biodegradation/bioaccumulation:**<br>No information available. | 0.05% | Y |
| Salt (Sodium Chloride all grades) | Newpark | Weighting Agent | **Toxicology Data:**<br>LC50 (Inhalation): > 42000 mg/m3/1 hour (rat)<br>LD50 (Ingestion): 3000 mg/kg (rat)<br>LD50 (Skin): > 10000 mg/kg (rabbit<br>LD50 (intraperitoneal) 2602 mg/kg (mouse)<br>LD50 (intravenous) 645 mg/kg (mouse)<br>LD50 (subcutaneous) 3000 mg/kg (mouse)<br>LDLo (intravenous) 300 mg/kg (guinea pig)<br>LDLo (oral) 8000 mg/kg (rabbit)<br>LDLo (subcutaneous) 2160 mg/kg (guinea pig)<br>TDLo (oral) 12357 mg/kg (human)<br>**Ecotoxicity Data:**<br>LC50 (water flea) is 2122 mg/L/48 hours.<br>LC50 (fathead minnow) is 6.57 g/L/96 hours.<br>This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.<br>**Biodegradation/bioaccumulation:** | 4.00% | Y |

| B. PRODUCT LIST [1] | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | Biodegradability does not pertain to inorganic substances. Does not bioaccumulate. | | |
| Gagetrol | Newpark | HT Fluid Loss Additive | Low toxicity - low irritant. Under normal conditions of use, adverse health effects are not anticipated.<br>**Ecotoxicity Data:**<br>This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.<br>**Biodegradation/bioaccumulation:**<br>Not expected to bioaccumulate.<br>OCNS category and registration number Gold - 29306 | 0.05% | Y |
| CleanTrol<br>**(Alternative for Gagetrol) | Newpark | HT Fluid Loss Additive | The product contains no substances which at their given concentration, are considered to be hazardous to health.<br>**Ecotoxicity Data:**<br>The environmental impact of this product has not been fully investigated.<br>**Biodegradation/bioaccumulation:**<br>No information available. | 0.05% ** | Y |
| NDFT 530<br>**(Alternative for Cleantrol) | Newpark | HT Fluid Loss Additive | The product contains no substances which at their given concentration, are considered to be hazardous to health.<br>**Ecotoxicity Data:**<br>The environmental impact of this product has not been fully investigated.<br>**Biodegradation/bioaccumulation:**<br>No information available. | 0.05% ** | Y |
| Magnesium Oxide | Newpark | Ph Buffer | CONSTITUENT 1 – (>94%)<br>**Toxicology Data:**<br>This product is expected to be of low toxicity.<br>CONSTITUENT 2 – (<3.5%)<br>**Toxicology Data:**<br>This product is expected to be of low toxicity.<br>CONSTITUENT 3 – (<2.5%)<br>**Toxicology Data:**<br>LD50 (oral) 3160 mg/kg (rat)<br>**Ecotoxicity Data:**<br>This product is expected to be of low toxicity.<br>**Biodegradation/bioaccumulation:** | 0.09% | Y |

| B. PRODUCT LIST [1] | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | Not expected to bioaccumulate.<br>OCNS category and registration number E – 28127 | | |
| TEA | Newpark | Polymer stabiliser which effectively reduces the degradation of polymers at high temperatures | CONSTITUENT 1 (>60%)<br>**Toxicology Data:**<br>Oral Toxicity (LD50) 2200 mg/kg (rabbit)<br>Dermal Toxicity (LD50) > 20 mL/kg (rabbit)<br>LD50 (intraperitoneal) 1450 mg/kg (mouse)<br>TDLo (oral) 16 g/kg/64 weeks (mouse – cancer)<br>CONSTITUENT 2 (10 – 30%)<br>**Toxicology Data:**<br>LD50 (intramuscular) 1500 mg/kg (rat)<br>LD50 (intraperitoneal) 120 mg/kg (rat)<br>LD50 (intravenous) 778 mg/kg (rat)<br>LD50 (subcutaneous) 2200 mg/kg (rat)<br>LDLo (oral) 3 g/kg (rat)<br>CONSTITUENT 3 (<10%)<br>Non-hazardous ingredient.<br>Ecotoxicity Data:<br>No information available.<br>**Biodegradation/bioaccumulation:**<br>No information available. | 0.09% | Y |
| Geovis | Newpark | High temperature viscosifier | **Constituents:**<br>D-GLUCURONO-6-DEOXY-L-MANNO-D-GLUCAN, ACETATE, CALCIUM MAGNESIUM POTASSIUM SODIUM SALT<br>**Toxicity:**<br>This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated.<br>Oral Toxicity – (LD50) > 5000 mg/kg (rat)<br>**Ecotoxicity:**<br>The notified polymer is not toxic to fish (rainbow trout), aquatic invertebrates (*daphnia magna*) and marine invertebrates (*acartia tonsa*) under test conditions.<br>**Biodegradation/Bioaccumulation:**<br>Considered readily biodegradable. | 0.05% | Y |

| B. PRODUCT LIST [1] | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | No experimental results provided. However, based on the molecular weight, water solubility and 29now value the notified polymer is not expected to bioaccumulate. | | |
| Microflow | Newpark | Stimulation Additive | **Constituents:**<br>SWEET ORANGE OIL<br>ISOPROPYL ALCOHOL<br>**Toxicity:**<br>Acute toxicity: May be harmful if swallowed.<br>Constituent 1 : ISOPROPANOL – (15-50%)<br>Oral Toxicity: An oral LD50 in mice of 3600 mg/kg<br>Constituent 2 : SWEET ORANGE OIL – (20-60%)<br>No Hazard<br>**Ecotoxicity:**<br>Not expected to be dangerous to the aquatic environment.<br>**Biodegradation/Bioaccumulation:**<br>This product is readily biodegradable.<br>This product is not expected to bioaccumulate.<br>Relatively volatile and would therefore readily evaporate from dry soil and surfaces. | 0.03% | Y |
| INCORR | Newpark | Corrosion Inhibitor | CONSTITUENT 1 – (10-30%)<br>**Toxicology Data:**<br>Oral LD50 = 1500 mg/kg (Rat)<br>**Ecotoxicity Data:**<br>The environmental impact of this product has not been fully investigated.<br>CONSTITUENT 2 – (1-10%)<br>**Toxicology Data:**<br>The environmental impact of this product has not been fully investigated.<br>**Ecotoxicity Data:**<br>The environmental impact of this product has not been fully investigated.<br>CONSTITUENT 3 – (1-10%)<br>**Toxicology Data:**<br>Oral LD50 = 3310 mg/kg (Rat)<br>Dermal LD50 = 1060 mg/kg (Rabbit)<br>Inhalation LC50 = 1060 mg/kg (Rabbit)<br>Ecotoxicity Data: Fish 79: 96 h Pimephales promelas mg/L LC50 static 75: 96 h Lepomis macrochirus mg/L LC50 static | 0.04% | Y |

| B. PRODUCT LIST [1] | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | Toxicity to microorganisms EC50 = 8.8 mg/L 15 min, EC50 = 8.8 mg/L 25 min, EC50 = 8.8 mg/L 5 min; Crustacea 65: 48 h Daphnia magna mg/L EC50 Static 47: 24 h Daphnia magna mg/L EC50 CONSTITUENT 4 – (Remainder)<br>Non-hazardous ingredient.<br>**Biodegradation/bioaccumulation:**<br>Partition coefficient -0.31<br>OCNS category and registration number Gold – 27554 | | |
| Polydrill | Newpark | HT Fluid Loss Additive | **Toxicology Data:**<br>Acute oral toxicity: LD50 (rat) > 5000 mg/kg (low toxicity). Under normal conditions of use, adverse health effects are not anticipated.<br>**Ecotoxicity Data**:<br>Oncorhynchus mykiss (Rainbow Trout) LC 50 (96 Hr) is 4,430 mg/L.<br>Pseudomonas putida EC 10 (growth inhibition) is > 32,000 mg/L.<br>**Bioaccumulation:**<br>This product is not readily biodegradable | 0.27% | Y |
| New100N® | Newpark | Lubricity and Shale Stabiliser | **CONSTITUENT 1 as an ingredient (<50%)**<br>**Acute Toxicity:**<br>LD50 oral, Mouse, 20,000 mg/kg<br>**Chronic Toxicity:**<br>Prolonged or repeated skin contact may cause dermatitis. Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion.<br>**Biodegradation/bioaccumulation:**<br>No data available.<br>**CONSTITUENT 2 as an ingredient is a natural product (10-30%)**<br>**Acute Toxicity:**<br>LD50 (intraperitoneal) 4420 mg/kg (rat)<br>LD50 (intravenous) 4250 mg/kg (mouse)<br>LD50 (subcutaneous) 91 mg/kg (mouse)<br>TDLo (oral) 1428 mg/kg (human)<br>**Biodegradation/bioaccumulation:**<br>No data available.<br>**CONSTITUENT 3 as an ingredient (<40%)**<br>Non-hazardous ingredient**.** | 5.43% | Y |
| | | | **Total** | **120.31%** | |

| C. Chemical List (Chemicals within fluid system identified in Table B)[1] | | |
|---|---|---|
| **Chemicals Name** | **CAS number** | **Mass fraction (%)** |
| Water | 7732-18-5 | 69.09% |
| Bentonite | 1302-78-9 | 1.83% |
| Potassium Chloride | 7447-40-7 | 3.55% |
| Calcium Carbonate (Limestone) | 471-34-1 | 2.82% |
| Sodium Chloride | 7647-14-5 | 19.14% |
| Barium Sulphate | 7727-43-7 | 0.24% |
| Sodium carboxymethyl Cellulose | 9004-32-4 | 0.59% |
| Xanthan Gum | 11138-66-2 | 0.39% |
| Polyvinylalcohol | 9002-89-5 | 0.07% |
| Quartz (Silica Crystalline) | 14808-60-7 | 0.10% |
| Sodium Hydroxide | 1310-73-2 | 0.10% |
| Sodium Carbonate (Soda Ash) | 497-19-8 | 0.14% |
| Sodium Sulphite | 7757-83-7 | 0.16% |
| Sodium Sulphate | 7757-82-6 | 0.004% |
| Sodium Bicarbonate | 144-55-8 | 0.15% |
| Citric Acid, Anhydrous | 77-92-9 | 0.03% |
| Sodium Glycolate | 2836-32-0 | 0.004% |
| Modified Starch | 9005-25-8 | 0.49% |
| Magnesium Oxide | 1309-48-4 | 0.05% |
| Calcium Oxide | 1305-78-8 | 0.002% |
| Silicon Dioxide | 7631-86-9 | 0.001% |
| Carboxymethyl Starch | 9057–06-1 | 0.20% |
| Acrylamide, Sodium Acrylate Copolymer | 25987-30-8 | 0.06% |
| Polyethylene Glycol | 25322-68-3 | 0.03% |
| Octan-2-Ol | 123-96-6 | 0.02% |
| 2-acrylamido-2-methylpropane Sulfonic Acid | 5165-97-9 | 0.03% |
| Tetrakis(hydroxymethyl)phosphonium Sulphate (2:1) | 55566-30-8 | 0.10% |

| C. Chemical List (Chemicals within fluid system identified in Table B)[1] | | |
|---|---|---|
| **Chemicals Name** | **CAS number** | **Mass fraction (%)** |
| Diethanolamine | 111-42-2 | 0.02% |
| Organic Fiber(s) | 9004-34-6 | 0.046% |
| | **Total** | **100%** |
| Octan-2-ol | 123-96-6 | 0.02% |
| Cellulose | 9004-34-6 | 0.06% |
| Calcium Chloride | 10043-52-4 | 0.06% |
| Sodium Chloride | 7647-14-5 | 3.91% |
| Ethylene Glycol | 107-21-1 | 0.33% |
| Quartz (Silica Crystalline) | 14808-60-7 | 0.20% |
| Natural Rubber | 9006-04-6 | 0.15% |
| Polyisoprene | 9003-31-0 | 0.015% |
| Diatomaceous Earth | 68855-54-9 | 0.045% |
| Fuller's earth | 8031-18-3 | 0.03% |
| D-glucurono-6-deoxy-L-manno-D-glucan, Acetate, calcium magnesium potassium sodium Salt | 595585-15-2 | 0.03% |
| Calcium Carbonate | 1317-65-3 | 0.15% |
| Polyethylene | 9002-88-4 | 0.01% |
| Cristobalite | 14464-46-1 | 0.015% |
| Isopropyl Alcohol | 67-63-0 | 0.01% |
| Calcium Oxide | 1305-78-8 | 0.003% |
| Organic fibres | 9004-34-6 | 0.11% |
| Magnesium oxide | 1309-48-4 | 0.09% |
| Triethanolamine | 102-71-6 | 0.05% |
| Hydrochloric acid | 7647-01-0 | 0.12% |
| Zinc Oxide | 1314-13-2 | 0.13% |
| Carboxymethyl starch | 9057-06-1 | 0.11% |
| Acrylamide, Sodium Acrylate Copolymer | 25987-30-8 | 0.06% |
| Barium Sulphate | 7727-43-7 | 5.89% |

| C. Chemical List (Chemicals within fluid system identified in Table B)[1] | | |
|---|---|---|
| **Chemicals Name** | **CAS number** | **Mass fraction (%)** |
| Methyl esters of fatty acids | 68990-52-3 | 0.53% |
| Sweet Orange Oil | 68647-72-3 | 0.01% |
| Fatty Acids – Avadefoam NS | 68990-52-3 | 0.03% |
| Hexanedinitrile, Hydrogenated, High-Boiling Fraction | 68411-90-5 | 0.32% |
| Silicon Dioxide | 7631-86-9 | 0.002% |
| Polyethylene Glycol | 25322-68-3 | 0.02% |
| Polypropylene Glycol | 25322-69-4 | 0.04% |
| Potassium Silicate | 1312-76-1 | 0.13% |
| Vegetable Materials | 100209-45-8 | 0.08% |
| Disodium Pyrophosphate | 7758-16-9 231- | 0.07% |
| 2-Propenoic Acid, Homopolymer | 9003-01-4 | 0.05% |
| Diethanolamine | 111-42-2 | 0.02% |
| Sodium Erythorbate | 6381-77-7 | 0.02% |
| Modified Starch | 9005-25-8 | 0.06% |
| Polyglycerol | 25618-55-7 | 2.44% |
| Glycerol (Glycerine) | 56-81-5 | 1.09% |
| 4-Nonylphenol, Branched, Ethoxylated | 127087-87-0 | 1.52% |
| Asphalt, Sulfonated, Sodium Salt | 68201-32-1 | 2.11% |

## 2. CEMENT AND SPACER CHEMICAL DISCLOSURE

| A. SYSTEM DETAILS: | |
|---|---|
| **OPERATOR:** | Warrego Energy Pty Ltd |
| **PROJECT / WELL NAME:** | Yuna East-1 and Yuna West-1 Exploration Wells (Permit EP 512) |
| **SYSTEM:** | Pre-job Cement System |
| **TOTAL VOLUME OF SYSTEM:** | CEMENT Blend: 227m$^3$ (includes 100% contingency) EACH WELL |

**B. PRODUCT LIST - HALLIBURTON**

| Trade name | Supplier | Purpose | Toxicity & Ecotoxicity Info | Product in system fluid (mass %) | SDS Attached |
|---|---|---|---|---|---|
| Cement – Class A | Halliburton | Cement | **CONSTITUENT 1 (≤ 90%):**<br>LD50 Oral: >2000 mg/kg (Rat), LD50 Dermal: >2000 mg/kg, LC50 Inhalation: >1.0 mg/L (4h) (Rat).<br>After hardening with water or moister, cement presents no ecotoxicity risks. (Source: IUCLID 2000).<br>Static Aquatic Toxicity – Freshwater and Marine Algae: - 72-hour EC50: >1,000 mg/L.<br>Static Aquatic Toxicity -Freshwater and Marine Invertebrates: - 48-hour LC50: >1,000 mg/L.<br>Static Aquatic Toxicity- Freshwater and Marine Fish: - 96 hour LC50: >1,500 mg/L.<br>Partition Coefficient, n-Octanol/Water: Not Applicable for inorganics.<br>Oxygen Demand, Chemical Oxygen Demand: Not Applicable for inorganics.<br>Biodegradability, Seawater – Indigenous microbes: Not Applicable for inorganics.<br>**CONSTITUENT 2 (≤ 8%):**<br>LD50 Oral: 3000 mg/kg (Rat), LD50 inhalation: >3.26 mg/L.<br>Freshwater Algae Toxicity 72h EC50: > 14 mg/L (Desmodesmus subspicatus) [ECHA] (Solubility Limit).<br>Freshwater Crustacean Toxicity 48h EC50: > 14 mg/L (Daphnia magna) [ECHA] (Solubility Limit).<br>Freshwater Fish Toxicity 96h LC50: > 14 mg/L (Oncorhynchus mykiss) [ECHA] (Solubility Limit).<br>Bioaccumulation: Substance is inorganic – bioaccumulation is not applicable.<br>Biodegradation: Substance is inorganic – biodegradation is not applicable.<br>**CONSTITUENT 3 (≤ 5%):**<br>LD50 Oral: 6450 mg/Kg (Rat), LD50 Inhalation: >3.0 mg/L (Rat), LD50 Dermal: >2000 mg/Kg (Rat).<br>Freshwater Algae Toxicity 72h EC50: > 100 mg/L (Selenastrum capricornutum) [OECD SIDS] (similar substance).<br>Freshwater Crustacean Toxicity 48h EC50: > 100 mg/L (Daphnia magna) [OECD SIDS] (similar substance). | 21.234% | Y |

| B. PRODUCT LIST - HALLIBURTON | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | Freshwater Fish Toxicity 96h EC50: > 100 mg/L (Oryzias latipes) [OECD SIDS] (similar substance).<br>Bioaccumulation: Substance is inorganic – bioaccumulation is not applicable.<br>Biodegradation: Substance is inorganic – biodegradation is not applicable.<br>**CONSTITUENT 4 (≤ 5%):**<br>LD50 Oral: >2000 mg/Kg (Rat), LD50 Inhalation: >5.235 mg/L (Rat), LD50 Dermal: >4000 mg/Kg (Rat).<br>Freshwater Algae Toxicity 72hr EC50: >100 g/L (Desmodesmus subspicatus).<br>Freshwater Crustacean Toxicity 48hr EC50: > 100 g/L (Daphnia magna).<br>Freshwater Fish Toxicity 96hr LC50: >100 g/L (Leuciscus idis).<br>Bioaccumulation: Substance is inorganic – bioaccumulation is not applicable.<br>Biodegradation: Substance is inorganic – biodegradation is not applicable.<br>**Chronic Effects:**<br>Portland Cement is not classified as a carcinogen by NOHSC.<br>Crystalline silica and hexavalent chromium compounds are classified as carcinogenic to humans (IARC Group 1), however due to low levels present and product application, the criterion for classification is not met. | | |
| Cement – Class G + 35% SSA-1 | Halliburton | Cement | **CONSTITUENT 1 (≤65%):**<br>LD50 Oral: >2000 mg/kg (Rat), LD50 Dermal: >2000 mg/kg, LC50 Inhalation: >1.0 mg/L (4h) (Rat).<br>After hardening with water or moister, cement presents no ecotoxicity risks. (Source: IUCLID 2000).<br>Static Aquatic Toxicity – Freshwater and Marine Algae: - 72 hour EC50: >1,000 mg/L.<br>Static Aquatic Toxicity -Freshwater and Marine Invertebrates: - 48 hour LC50: >1,000 mg/L.<br>Static Aquatic Toxicity- Freshwater and Marine Fish: - 96 hour LC50: >1,500 mg/L.<br>Partition Coefficient, n-Octanol/Water: Not Applicable for inorganics.<br>Oxygen Demand, Chemical Oxygen Demand: Not Applicable for inorganics.<br>Biodegradability, Seawater – Indigenous microbes: Not Applicable for inorganics.<br>**CONSTITUENT 2 (≤35%):**<br>LD50 Oral: >15000 mg/kg (human).<br>Freshwater Crustacean Toxicity 24h LL50: > 10000 mg/L (Daphnia magna) [Health Canada] (similar substance).<br>Freshwater Fish Toxicity 96h LL0: 10000 mg/L (Danio rerio) [Health Canada] (similar substance).<br>**Bioaccumulation:**<br>Substance is inorganic – bioaccumulation is not applicable.<br>**Biodegradation:** | 19.601% | Y |

| B. PRODUCT LIST - HALLIBURTON | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | Substance is inorganic – biodegradation is not applicable.<br>**Carcinogenicity:**<br>Classified as a human carcinogen (IARC Group 1). | | |
| Barite | Halliburton | Weighting Agent | PRODUCT CEFAS LISTED<br>100% PLONOR<br>**CONSTITUENT 1 (≤100%):**<br>Oral LD50: >5000 mg/kg (Rat), Oral LD50: >3000 mg/kg (Mouse), Inhalation LC50: >1.1 mg/L (Rat, Aerosal, 4h) (similar substance).<br>Freshwater Algae Toxicity 72h EC50: > 61.1 mg/L (Pseudokirchneriella subcapitata) [ECHA].<br>Freshwater Crustacean Toxicity 48h LC50: 14.5 mg/L (Daphnia magna) [ECHA] (similar substance).<br>Freshwater Fish Toxicity 96h LC50: > 3.5 mg/L (Danio rerio) [ECHA].<br>No Marine Data.<br>Marine sub-chronic Crustacean Toxicity NOEC (7d) 100 mg/L (Cancer anthonyi).<br>**Bioaccumulation:**<br>Fish BCF: 1.2-74.4 (Lepomis macrochirus) [ECHA].<br>**Biodegradation:**<br>Substance is inorganic – biodegradation is not applicable.<br>**CONSTITUENT 2 (≤5%):**<br>LD50 Oral: >15000 mg/kg (human).<br>Freshwater Crustacean Toxicity 24h LL50: > 10000 mg/L (Daphnia magna) [Health Canada] (similar substance).<br>Freshwater Fish Toxicity 96h LL0: 10000 mg/L (Danio rerio) [Health Canada] (similar substance).<br>Marine Water Algae Toxicity 72h EC50: 4717 mg/L (Skeletonema costatum).<br>Marine Water Crustacean Toxicity 48h LC50: 7713 mg/L (Acartia tonsa).<br>Marine Water Fish Toxicity 96h LC50: > 4200 mg/L (Scophthalmus maximus) [Halliburton Sponsored Study].<br>**Bioaccumulation:**<br>Substance is inorganic – bioaccumulation is not applicable.<br>**Biodegradation:**<br>Substance is inorganic – biodegradation is not applicable.<br>Carcinogenicity: Classified as a human carcinogen (IARC Group 1). | 5.575% | Y |
| Econolite Liquid | Halliburton | Cement Additive Stabiliser | PRODUCT CEFAS LISTED<br>100% PLONOR | 1.399% | Y |

| B. PRODUCT LIST - HALLIBURTON | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | **CONSTITUENT 1 (≤60%):**<br>LD50 Oral: 800 mg/kg (Rat), LD50 Oral: 770 mg/kg (Mouse), LD50 Dermal: > 5000 mg/kg (Rat) (Similar substance), LC50 Inhalation >2.06 mg/L (Rat) 4h (Similar substance).<br>Freshwater Algae Toxicity 72h EC50: > 345 mg/L (Scenedesmus subspicatus) [ECHA].<br>Freshwater Crustacean Toxicity 48h EC50: 1700 mg/L (Daphnia magna) [OECD SIDS].<br>Freshwater Fish Toxicity 96h LC50: 1108 mg/L (Danio rerio) [OECD SIDS].<br>**Bioaccumulation:**<br>Substance is inorganic – bioaccumulation is not applicable.<br>**Biodegradation:**<br>Substance is inorganic – biodegradation is not applicable.<br>**CONSTITUENT 2 (≤60%):**<br>Component is naturally occurring and is not intrinsically hazardous.<br>No data available to indicate product or components present at greater than 0.1% are chronic health hazards . | | |
| Tuned Spacer III | Halliburton | Mud/<br>Cement Spacer | **CONSTITUENT 1 (≤30%):**<br>Marine Water Acute Algae Toxicity 72h EC50: > 10000 mg/L (Skeletonema costatum) [Halliburton Funded Study].<br>Marine Water Acute Crustacean Toxicity 48h LC50: > 10000 mg/L (Acartia tonsa) [Halliburton Funded Study].<br>Marine Water Acute Fish Toxicity 96h LC50: > 5600 mg/L (Scophthalmus maximus) [Halliburton Funded Study].<br>Constituent is a clay mineral of soil and therefore biodegradability is not applicable<br>Constituent is a clay mineral of soil and therefore bioaccumulation is not applicable.<br>**CONSTITUENT 2 (≤10%):**<br>Oral LD50: >5000 mg/kg (Similar Substance), Inhalation LC0 >0.139 mg/L (Similar Substance), Dermal LC50: > 5000 mg/kg (Rabbit).<br>Freshwater Acute Algae Toxicity 72h EC50: > 10000 mg/L (Scenedesmus subspicatus) [OECD SIDS] (similar substance).<br>Freshwater Acute Crustacean Toxicity 24h EC50: > 10000 mg/L (Daphnia magna) [OECD SIDS] (similar substance).<br>Freshwater Acute Fish Toxicity 72h LC50: > 10000 mg/L (Cyprinus carpio) [LOLI].<br>**Bioaccumulation:**<br>Substance is inorganic – bioaccumulation is not applicable.<br>**Biodegradation:**<br>Substance is inorganic – biodegradation is not applicable. | 1.329% | Y |

| B. PRODUCT LIST - HALLIBURTON | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | **CONSTITUENT 3 (≤5%):**<br>Component is naturally occurring and not intrinsically hazardous.<br>**CONSTITUENT 4 (≤1%):**<br>Oral LD50 5400 mg/kg (Rat), Dermal LD50 >2000 mg/kg.<br>Freshwater Acute Crustacean Toxicity 48h EC50: > 50 mg/L (Daphnia magna) [ECHA]<br>Freshwater Acute Fish Toxicity 96h LC50: > 100 mg/L (Pimephales promelas) [ECHA].<br>Freshwater Acute Plant Toxicity 72h EC50: 990 mg/L (Lactuca sativa) [ECHA].<br>Bioaccumulation BCF: 3.2 [ECHA].<br>Freshwater Biodegradation 28d: 97 % [ECHA].<br>**CONSTITUENT 5 (≤100%):**<br>Oral LD50: >15000 mg/kg (Human).<br>Freshwater Acute Crustacean Toxicity 24h LL50: > 10000 mg/L (Daphnia magna) [Health Canada] (similar substance).<br>Freshwater Acute Fish Toxicity 96h LL0: 10000 mg/L (Danio rerio) [Health Canada] (similar substance).<br>**Bioaccumulation:**<br>Substance is inorganic – bioaccumulation is not applicable.<br>**Biodegradation:**<br>Substance is inorganic – biodegradation is not applicable.<br>**CONSTITUENT 6 (≤1%):**<br>Oral LD50: >15000 mg/kg (Human) (Similar Substance).<br>Freshwater Acute Crustacean Toxicity 24h LL50: > 10000 mg/L (Daphnia magna) [Health Canada] (similar substance).<br>Freshwater Acute Fish Toxicity 96h LL0: 10000 mg/L (Danio rerio) [Health Canada] (similar substance).<br>**Bioaccumulation:**<br>Substance is inorganic – bioaccumulation is not applicable.<br>**Biodegradation:**<br>Substance is inorganic – biodegradation is not applicable. | | |
| Halad-413L | Halliburton | Fluid Loss Additive | PRODUCT CEFAS LISTED<br>**CONSTITUENT 1 (≤30%):**<br>Oral LD50: >2000 mg/kg (Rat).<br>Marine Water Algae Toxicity 72h EC50: 1102 mg/L (Skeletonema costatum) [OSPAR].<br>Marine Water Crustacean Toxicity 48h LC50: > 2000 mg/L (Acartia tonsa) [OSPAR]. | 0.437% | Y |

| B. PRODUCT LIST - HALLIBURTON | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | Marine Water Fish Toxicity 96h LC50: > 1000 mg/L (Scophthalmus maximus) [OSPAR].<br>Bioaccumulation Log 39now: < 3.5 [Halliburton Funded Study].<br>Marine Water Biodegradation 28d: 6 % [Halliburton Funded Study].<br>**CONSTITUENT 2 (≤100%):**<br>Product is naturally occurring and not intrinsically hazardous.<br>No data available to indicate product or components present at greater than 0.1% are chronic health hazards. | | |
| Gascon 469 | Halliburton | Cement Additive Stabiliser | PRODUCT CEFAS LISTED<br>100% PLONOR<br>**CONSTITUENT 1 <=1%:.**<br>Oral LDL: 500 mg/kg (Rabbit), Dermal LD50: 1350 mg/kg (Rabbit)<br>Freshwater Crustacean Toxicity 48h EC50: 40.4 mg/L (Ceriodaphnia sp.) [ECHA].<br>Freshwater Fish Toxicity 96h LC50: 45.4 mg/L (Oncorhynchus mykiss).<br>Freshwater Fish Toxicity 96h LC50: 125 mg/L (Gambusia affinis) [OECD SIDS].<br>**Bioaccumulation:**<br>Substance is inorganic – bioaccumulation is not applicable.<br>**Biodegradation:**<br>Substance is inorganic – biodegradation is not applicable.<br>**CONSTITUENT 2 <=60%:**<br>Oral LD50: >10,000 mg/kg, Inhalation LC50: >0.69 mg/L (4h) (Rat).<br>Freshwater Algae Toxicity 72h EC50: 440 mg/L (Selenastrum capricornutum) [IUCLID; LOLI].<br>Freshwater Crustacean Toxicity 48h EC50: 7600 mg/L (Ceriodaphnia dubia) [IUCLID; LOLI].<br>Freshwater Fish Toxicity 96h LC50: 5000 mg/L (Brachydanio rerio) [IUCLID; LOLI].<br>**Bioaccumulation:**<br>Substance is inorganic – bioaccumulation is not applicable.<br>**Biodegradation:**<br>Substance is inorganic – biodegradation is not applicable.<br>**CONSTITUENT 3 <= 100%:**<br>Component is naturally occurring and is not intrinsically hazardous.<br>No data available to indicate product or components present at greater than 0.1% are chronic health hazards. | 0.365% | Y |
| CFR-8L | Halliburton | Friction Reducer | PRODUCT CEFAS LISTED<br>**CONSTITUENT 1 (≤60%):**<br>Oral LD50: >5000 mg/kg (Rat). | 0.343% | Y |

| B. PRODUCT LIST - HALLIBURTON | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | Marine Water Algae Toxicity 72h EC50: 7631.73 mg/L (Skeletonema costatum).<br>Marine Water Crustacean Toxicity 48h LC50: 2200 mg/L (Acartia tonsa).<br>Marine Water Fish Toxicity 96h LC50: 1006 mg/L (Scophthalmus maximus).<br>Fresh Water Crustacean Toxicity 48h LC50: >100 mg/L (Daphnia magna).<br>Bioaccumulation Log Pow: < 0.<br>Inherently biodegradable: Biodegradation 28d: 38%.<br>**CONSTITUENT 2 (≤100%):**<br>Component is naturally occurring and not intrinsically hazardous.<br>No data available to indicate product or components present at greater than 0.1% are chronic health hazards. | | |
| HR-6L | Halliburton | Cement Retarder | PRODUCT CEFAS LISTED<br>100% PLONOR<br>**CONSTITUENT 1 (≤100%):**<br>Component is naturally occurring and not intrinsically hazardous.<br>No data available to indicate product or components present at greater than 0.1% are chronic health hazards.<br>**CONSTITUENT 2 (≤60%):**<br>Oral LC50: >5000 mg/L, Inhalation LC50: > 480 mg/m3.<br>Freshwater Fish Toxicity LC50: >1000 mg/L (Danio rerio).<br>Marine Water Algae Toxicity 72h EC50: 301 mg/L (Skeletonema costatum) [Halliburton Funded Study].<br>Marine Water Crustacean Toxicity 48h LC50: 1261 mg/L (Acartia tonsa) [Halliburton Funded Study].<br>**Bioaccumulation:**<br>Log Pow: -3.45 (Calculated) [Halliburton Funded Study].<br>**Biodegradation:**<br>No data – expected to be inherently biodegradable.<br>No data available to indicate product or components present at greater than 0.1% are chronic health hazards. | 0.031% | Y |
| NF-6 | Halliburton | Reduces air entrainment into cement slurry | **PRODUCT DATA**<br>Marine Water Algae Toxicity 72h EC50: 1100 mg/L (Skeletonema costatum) [Halliburton Funded Study].<br>Marine Water Crustacean Toxicity 48h LC50: > 1000 mg/L (Acartia tonsa) [Halliburton Funded Study]. | 0.0905% | Y |

| B. PRODUCT LIST - HALLIBURTON | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | Marine Water Fish Toxicity 96h LC50: > 1000 mg/L (Scophthalmus maximus) [Halliburton Funded Study].<br>Marine Water Biodegradation 28d: 70% [Halliburton Funded Study].<br>**CONSTITUENT 1 (≤10%):**<br>Marine Algae Toxicity 72h EC50: 991.02 mg/L (Skeletonema costatum).<br>Marine Crustacean Toxicity 48h LC50: 2500 mg/L (Acartia tonsa).<br>Marine Fish Toxicity 96h LC50: >3200 mg/L (Scophthalmus maximus).<br>**Bioaccumulation:**<br>Calculated Log Pow: 7.45.<br>**CONSTITUENT 2 (≤5%):**<br>Oral LD50: >15900 mg/kg (Mouse), Inhalation LC50: >5 mg/L (4h) (Rat).<br>Marine Algae Toxicity 72h EC50: 41 mg/L (Skeletonema costatum).<br>Marine Crustacean Toxicity 48h LC50: >10000 mg/L (Acartia tonsa).<br>Marine Fish Toxicity 96h LC50: >1800 mg/L (Scophthalmus maximus).<br>Bioaccumulation: Calculated Log Pow: 4.28.<br>**CONSTITUENT 3 (≤5%):**<br>Oral LD50: > 5000 mg/kg (Rat), Dermal LD50: >5000 mg/kg (Guinea Pig).<br>Marine Algae Toxicity 72h EC50: 6488.87 mg/L (Skeletonema costatum).<br>Marine Crustacean Toxicity 48h LC50: 5085.71 mg/L (Acartia tonsa).<br>Marine Fish Toxicity 96h LC50: >5600 mg/L (Scophthalmus maximus).<br>**Bioaccumulation:**<br>Calculated Log Pow: 22.69 (MW>700).<br>**CONSTITUENT 4 (≤10%):**<br>No Hazard Product is naturally occurring.<br>CONSTITUENT 5 (≤100%).<br>Oral LD50: 90 mg/kg (Mouse) (Similar Substance).<br>Marine Algae Toxicity 72h EC50: >3200 mg/L (Skeletonema costatum).<br>Marine Crustacean Toxicity 48h LC50: >10000 mg/L (Acartia tonsa).<br>Marine Fish Toxicity 96h LC50: >5600 mg/L (Scophthalmus maximus).<br>Bioaccumulation.Calculated Log Pow: 7.09.<br>No data available to indicate product or components present at greater than 0.1% are chronic health hazards. | | |
| Halad-344 | Halliburton | Fluid Loss Additive for High Temperature | PRODUCT CEFAS LISTED<br>**CONSTITUENT 1 <=100%:** | 0.0693% | Y |

| B. PRODUCT LIST - HALLIBURTON | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | Marine Water Algae Toxicity EC50: >3300 mg/L (Skeletonema costatum [HES Interal Study].<br>Marine Water Crustacean Toxicity EC50: > 2000 mg/L (Acartia tonsa) [ HES study].<br>Marine Fish Toxicity LC50: >1000 mg/L (Scophthalmus maximus) [ HES study].<br>Bioaccumulation Log Pow: <0 OECD 117 [HES Study].<br>0% (OECD 306) [HES Study].<br>**CONSTITUENT 2 <=5%:**<br>PLONAR.<br>**CONSTITUENT 3 <= 5%:**<br>PLONAR.<br>**CONSTITUENT 4 <=5%:**<br>PLONAR.<br>Effect concentrations in the aquatic environment are attributable to a change in pH value.<br>Oral LD50: 7340 mg/kg (Rat), Dermal LD50: >2500 mg/kg (Rabbit).<br>Freshwater Crustacean Toxicity 48h EC50: 49.1 mg/L (Daphnia magna) [ECHA].<br>Freshwater Fish Toxicity 96h LC50: 50.6 mg/L (Oncorhynchus mykiss) [ECHA].<br>Marine Water Crustacean Toxicity 96h LC50: 158 mg/L (Crangon septemspinosa) [ECHA].<br>**Bioaccumulation:**<br>Substance is inorganic – bioaccumulation is not applicable.<br>**Biodegradation:**<br>Substance is inorganic – biodegradation is not applicable.<br>**PRODUCT DATA**<br>Oral LD50: >2000 mg/kg (similar Product).<br>Marine Water Fish Toxicity 96h LC50: > 1000 mg/L (Scophthalmus maximus) [Halliburton Funded Study].<br>Bioaccumulation Log Pow: <0 [Halliburton Funded Study].<br>Marine Water Biodegradation 28d: 0% [Halliburton Funded Study]. | | |
| SCR-100L | Halliburton | Cement Retarder | PRODUCT CEFAS LISTED<br>**PRODUCT DATA:**<br>Oral Toxicity LD50: >5000 mg/kg (Rat), Dermal LD50 : >2000 mg/kg (Rabbit).<br>Freshwater Fish Toxicity 96h LC50: 4900 mg/L (Oncorhynchus mykiss).<br>Freshwater Crustacean Toxicity 48h LC50: 2800 mg/L (Daphnia magna).<br>Marine Water Algae Toxicity 72h EC50: > 3300 mg/L (Skeletonema costatum) [Halliburton Funded Study]. | 0.0394% | Y |

| B. PRODUCT LIST - HALLIBURTON | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | Marine Water Crustacean Toxicity 48h LC50: > 2000 mg/L (Acartia tonsa) [Halliburton Funded Study].<br>Marine Water Fish Toxicity 96h LC50: > 1000 mg/L (Scophthalmus maximus) [Halliburton Funded Study].<br>Marine Water Biodegradation 28d: 14% [Halliburton Funded Study].<br>Product was tested using OECD 117 no peaks detected MW>700Da. Product is not expected to be bioaccumulating.<br>No data available to indicate product or components present at greater than 0.1% are chronic health hazards. | | |
| SA-1015 | Halliburton | Suspension Agent | **PRODUCT DATA:**<br>Freshwater Algae Toxicity 72h EC50: >100 mg/L (Scenedesmus subspicatus).<br>Freshwater Crustacean Toxicity 48h EC50: >100 mg/L (Daphnia magna).<br>Freshwater Fish Toxicity 96h LC50: >100 mg/L (Oncorhynchus mykiss).<br>Marine Water Algae Toxicity 72h EC50: > 5600 mg/L (Skeletonema costatum).<br>Marine Water Crustacean Toxicity 48h LC50: 234.22 mg/L (Acartia tonsa).<br>Marine Water Fishn Toxicity 96h LC50: > 234.22 mg/L (Cyprinodon variegatus).<br>Readily biodegradable (95% at 28 days).<br>Bioaccumulation Log Pow: 0. | 0.0134% | Y |
| HR-25L | Halliburton | Cement Retarder | PRODUCT CEFAS LISTED<br>**CONSTITUENT 1 (≤60%):**<br>No Hazard.<br>**CONSTITUENT 2 (≤60%):**<br>Freshwater Algae Toxicity 72h EC50: 51.4 mg/L (Pseudokirchneriella subcapitata) [ECHA].<br>Freshwater Crustacean Toxicity 48h EC50: 93.3 mg/L (Daphnia magna) [ECHA].<br>Freshwater Fish Toxicity 96h LC50: > 100 mg/L (Danio rerio) [ECHA].<br>Bioaccumulation Log Pow: 0.24 [Halliburton Funded Study].<br>Marine Water Biodegradation 28d: 85 % [ECHA]. | 0.031% | Y |
| Water | Customer Supplied | Water | None. | 49.418% | N |
| | | | **Total** | **100%** | |

| C. CHEMICAL LIST - HALLIBURTON | | |
|---|---|---|
| **Chemicals within products in Part B** | **CAS number** | **Maximum Mass fraction in System (%)** |
| Portland cement | 65997-15-1 | 49.4% |
| Water (Including Mix Water Supplied by Client) * | - | 31.2% |
| Crystalline silica (impurity) | 14808-60-7 | 8.1% |
| Barium Sulfate | 7727-43-7 | 5.3% |
| Water in Products | 7732-18-5 | 1.66% |
| Limestone | 1317-65-3 | 1.49% |
| Calcium sulfate dihydrate | 10101-41-4 | 0.849% |
| Sodium silicate | 1344-09-8 | 0.560% |
| Granulated Blast Furnace Slag | 65996-69-2 | 0.425% |
| Sepiolite | 63800-37-3 | 0.266% |
| Silica, amorphous – fumed | 7631-86-9 | 0.146% |
| Humic acids, sodium salts, polymers with N,N-dimethyl-2-propenamide, sodium 2-methyl-2-[(1-oxo-2-propen-1-yl)amino]-1-propanesulfonate (1:1) and 2-propenenitrile, sodium bisulfite-terminated | 473268-27-8 | 0.131% |
| Sulfonated organic polymer | 526203-62-3 | 0.0990% |
| Rape Oil | 8002-13-9 | 0.0796% |
| Diatomaceous earth | 61790-53-2 | 0.0664% |
| N,N-dimethylacrylamide copolymer with calcium AMPS | 103115-52-2 | 0.0589% |
| Sodium Lignosulfonate | 8061-51-6 | 0.0546% |
| Acrylic acid polymer with sodium AMPS, sodium salt | 37350-42-8 | 0.0157% |
| Dilutan Gum | 125005-87-0 | 0.0134% |
| Citric acid | 77-92-9 | 0.0133% |
| Crystalline silica, cristobalite | 14464-46-1 | 0.0133% |
| Welan gum | 72121-88-1 | 0.0133% |
| Monopropylene glycol monooleate | 1330-80-9 | 0.00453% |
| Tartaric acid | 87-69-4 | 0.00408% |
| Sodium hydroxide | 1310-73-2 | 0.00365% |
| Calcium hydroxide | 1305-62-0 | 0.00346% |
| Lecithins | 8002-43-5 | 0.00346% |
| Sodium sulfate | 7757-82-6 | 0.00346% |
| Aluminium stearate | 637-12-7 | 0.000905% |

| C. CHEMICAL LIST - HALLIBURTON | | |
|---|---|---|
| **Chemicals within products in Part B** | **CAS number** | **Maximum Mass fraction in System (%)** |
| Sorbitan, monopalmitate | 26266-57-9 | 0.000905% |
| 2-Bromo-2-(bromomethyl) pentanedinitrile | 35691-65-7 | 0.0000394% |
| FD&C Blue 1 | 3844-45-9 | 0.0000394% |
| | **Total** | **~100.00%** |

| B. PRODUCT LIST – SCHLUMBERGER | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| B038 | SLB | Extender | **Acute Toxicity:**<br>Non-crystalline silica: LD50 Oral: = 7900 mg/kg, LD50 Dermal: >2 g/kg, LC50 Inhalation: >2.2 mg/L (1h).<br>Ethylene glycol: LD50 Oral: 7712 mg/kg, LD50 Dermal: >3500 mg/kg, LC50 inhalation: >2.5 mg/L (6h).<br>**Chronic Toxicity:**<br>No known sensitizing, carcinogenic, reproductive, or mutagenic effects. Product is not a known or suspected reproductive hazard. Not known to cause birth defects or have a deleterious effect on a foetus.<br>**Ecotoxicity:**<br>Non-crystalline silica: Toxicity to Fish: LC50: = 5000 mg/L (96 h), Toxicity to Algae: = 440 mg/L (72h), Toxicity to invertebrates: = 7600 mg/L (48h).<br>Ethylene glycol: Toxicity to Fish: 16000-60000 mg/L (96h), Toxicity to Algae: = 6500-13000 mg/L (96h), Toxicity to Invertebrates: EC50= 46300 mg/L (48 h).<br>**Biodegradation/ Bioaccumulation:**<br>Ethylene glycol" readily biodegradable. | 0.003% | Y |
| D013 | SLB | Retarder | **Acute Toxicity:**<br>None.<br>**Chronic toxicity:**<br>Product contains no components known to be sensitizing, mutagens, or carcinogens. Product does not contain any known or suspected reproductive or developmental hazards.<br>**Aquatic Ecotoxicity:**<br>Product is not considered toxic to algae, fish, or invertebrates. Product is inherently biodegradable, not expected to bioaccumulate. | 0.011% | Y |
| D020 | SLB | Extender | **Acute Toxicity:**<br>Crystalline Silica: LD50 Oral: = 500 mg/kg.<br>**Chronic toxicity:**<br>Product contains no components known to be sensitizing or mutagens. Crystalline silica dust is listed by IARC as Group 1 carcinogen. Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>Toxicity to Fish: LC50: = 10000 mg/L (96 h) Toxicity to Algae: EC50: >1000 mg/L (120 h)<br>Toxicity to Invertebrates: EC50 >10000 mg/L (48 h).<br>**Biodegradation/ Bioaccumulation:** Not applicable- Inorganic chemical. | 1.152% | Y |

| B. PRODUCT LIST – SCHLUMBERGER | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| D031 | SLB | Viscosifier and Fluid Loss Additive | **Acute Toxicity:**<br>Crystalline Silica: LD50 Oral (Rat): = 500 mg/kg.<br>Chronic toxicity: Product contains no components known to be sensitizing or mutagens. Crystalline silica dust is listed by IARC as Group 1 carcinogen. Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>Toxicity to Fish: LC50(Danio Rerio): = 10000 mg/L (96 h).<br>Toxicity to Algae: EC50: >1000 mg/L (120 h).<br>Toxicity to Invertebrates: EC50 (Daphnia magna) >10000 mg/L (48 h).<br>**Biodegradation/ Bioaccumulation:**<br>Not applicable- Inorganic chemical. | 4.600% | Y |
| D047 | SLB | AntiFoam Agent | **Acute Toxicity:**<br>None.<br>**Chronic toxicity:**<br>Product contains no components known to be sensitizing, mutagens, or carcinogens.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Aquatic Ecotoxicity:**<br>Product is not considered toxic to algae, fish, or invertebrates. Product is readily biodegradable, bioaccumulation is unlikely. | 0.052% | Y |
| D065 | SLB | Dispersant | **Acute Toxicity:**<br>Sodium sulfate: LD50 Oral: 10010 mg/kg.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing, mutagenic or carcinogenic.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>Sodium sulfate: LC50 (Fish): >3040 mg/L (96 h) EC50 (Invertebrates): 2564 mg/L (48h).<br>**Biodegradation/ Bioaccumulation:**<br>No product level data available. | 0.048% | Y |
| D075 | SLB | Extender | **Acute Toxicity:**<br>None.<br>**Chronic Toxicity:** | 0.044% | Y |

| B. PRODUCT LIST – SCHLUMBERGER | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | Product contains no components known to be sensitizing, mutagens, or carcinogens. Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>The product component(s) are not classified as environmentally hazardous.<br>Product not considered toxic to algae, fish, or invertebrates. Contains no substance considered to be bioaccumulating or toxic. | | |
| D077 | SLB | Accelerator | **Acute Toxicity:**<br>Disodium metasilicate: LD50 Dermal: 1153 mg/kg LD50.<br>**Chronic Toxicity:**<br>No known sensitizing, carcinogenic, reproductive, or mutagenic effects.<br>Product contains any known or suspected reproductive hazards. Not known to cause birth defects or have a deleterious effect on a foetus.<br>**Ecotoxicity:**<br>Disodium metasilicate: LC50 (Fish): = 210 mg/L (96 h) EC50 (Invertebrates) = 216 mg/L (48 h).<br>**Biodegradation/ Bioaccumulation:**<br>Product is Inorganic. Does not bioaccumulate. | 0.476% | Y |
| D079 | SLB | Extender | **Acute Toxicity:**<br>Calcium Chloride: LD50 Dermal: 1000 mg/kg LD50 Dermal: 5005 mg/L.<br>**Chronic Toxicity:**<br>No known sensitizing, carcinogenic, reproductive, or mutagenic effects.<br>Product contains any known or suspected reproductive hazards. Not known to cause birth defects or have a deleterious effect on a foetus.<br>**Ecotoxicity:**<br>Calcium Chloride:.<br>Toxicity to Fish: LC50: = 10650 mg/L (96 h) Toxicity to Invertebrates: EC50= 2400 mg/L (48 h).<br>**Biodegradation/ Bioaccumulation:**<br>Product is Inorganic. does not bioaccumulate. | 0.013% | Y |
| D080 | SLB | Dispersant | **Acute Toxicity:**<br>None.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing, mutagens, or carcinogens. | 0.033% | Y |

| B. PRODUCT LIST – SCHLUMBERGER | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | Product does not contain any known or suspected reproductive or developmental hazards<br>**Ecotoxicity:**<br>Toxic to aquatic life with long lasting effects. Sodium polynaphthalene sulfonate: EC50 (48 hours) 1.8 mg/l.<br>Product is not considered toxic to fish or invertebrates.<br>Product is not biodegradable. Bioaccumulation is unlikely. | | |
| D081 | SLB | Retarder | **Acute Toxicity:**<br>None.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing, mutagens, or carcinogens.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>The product component(s) are not classified as environmentally hazardous.<br>Product not considered toxic to algae, fish, or invertebrates. Does not bioaccumulate. | 0.173% | Y |
| D110 | SLB | Retarder | **Acute Toxicity:**<br>None.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing, mutagens, or carcinogens.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>The product component(s) are not classified as environmentally hazardous<br>Product not considered toxic to algae, fish, or invertebrates.<br>Product is biodegradable, does not bioaccumulate.<br>**Biodegradation/ Bioaccumulation:**<br>Not applicable. | 0.137% | Y |
| D145A | SLB | Dispersant | **Acute Mammalian Toxicity:**<br>Formaldehyde (impurity): LD50 Oral (Rat): 100 mg/kg, LD50 Dermal (Rabbit): 270 mg/kg, LD50 Inhalation: 0.578 mg/l Rat (4 hrs).<br>**Ecotoxicity:**<br>Toxicity to Fish: LC50 > 0.032 mg/L, Toxicity to Invertebrates: EC50 >11.3 mg/L.<br>**Biodegradation:** | 0.044% | Y |

| B. PRODUCT LIST – SCHLUMBERGER | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | This product contains substances which are expected to be biodegradable.<br>**Bioaccumulation:**<br>No product level data available. | | |
| D151 | SLB | Viscosifier and Fluid Loss Additive | **Acute Toxicity:**<br>Crystalline Silica: LD50 Oral: = 500 mg/kg<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing or mutagens.<br>Crystalline silica dust is listed by IARC as Group 1 carcinogen.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>Crystalline Silica: Toxicity to Fish: LC50: = 10000 mg/L (96 h), Toxicity to Algae: EC50: >1000 mg/L (120 h), Toxicity to Invertebrates: EC50 >10000 mg/L (48 h).<br>**Biodegradation /Bioaccumulation:**<br>Not applicable- Inorganic chemical. | 9.193% | Y |
| D153 | SLB | Suspending Agent | **Acute Toxicity:**<br>None known.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing or mutagens.<br>Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>Product not considered toxic to algae, fish, or invertebrates.<br>Contains no substance considered to be bioaccumulating or toxic Inorganic Chemical. | 0.010% | Y |
| D155 | SLB | Extender | **Acute Toxicity:**<br>None known.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing, mutagens, or carcinogens<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>Product not considered toxic to algae, fish, or invertebrates. | 0.020% | Y |

| B. PRODUCT LIST – SCHLUMBERGER | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | Contains no substance considered to be bioaccumulating or toxic Inorganic Chemical. | | |
| D161 | SLB | Retarder | **Acute Toxicity:**<br>Sodium Pentaborate: LD50 Dermal: >2 g/kg LC50 Inhalation: > 2.03 mg/L<br>**Chronic Toxicity:**<br>No known sensitizing, carcinogenic, reproductive, or mutagenic effects<br>Product is or contains a chemical which is a known or suspected reproductive hazard.<br>Not known to cause birth defects or have a deleterious effect on a foetus.<br>**Ecotoxicity:**<br>Sodium Pentaborate: Toxicity to Fish: LC50: = 600 mg/L (96 h) Toxicity to Invertebrates: EC50= 86 mg/L (48 h).<br>**Biodegradation /Bioaccumulation:**<br>No product level data available. | 0.010% | Y |
| D167A | SLB | Additive | **Acute Toxicity:**<br>2-methylpropan-2-ol (impurity): LD50 Oral (Rat): = 2200 mg/kg, LD50 Dermal (Rabbit): = 2g/kg, LC50 Inhalation (Rat): >10000 ppm.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing, mutagens, or carcinogens.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>2-methylpropan-2-ol (impurity):<br>Toxicity to Fish: 6130-6700 mg/L.<br>Toxicity to Algae: >1000 mg/L.<br>Toxicity to invertebrates: = 933 mg/L.<br>**Biodegradation/ Bioaccumulation:**<br>No product level data available. | 0.041% | Y |
| D168A | SLB | Additive | **Acute Toxicity:**<br>None.<br>**Chronic Toxicity:**<br>Product contains no components expected to be sensitizing, mutagenic, or carcinogenic.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>Product not considered toxic to algae, fish, or invertebrates. | 0.048% | Y |

| B. PRODUCT LIST – SCHLUMBERGER | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | **Biodegradation/ Bioaccumulation:**<br>No product level data available. | | |
| D174 | SLB | Expander | **Acute Toxicity:**<br>None.<br>**Chronic Toxicity:**<br>Product contains no components expected to be sensitizing, mutagenic, or carcinogenic.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>Calcium magnesium oxide; LC50(96hr) Freshwater Fish: 40.6 mg/L; EC50 (72hr) Freshwater Algae: 48 mg/L mg/L; EC50 (24hr) freshwater Invertebrates:49.1 mg/L.<br>**Biodegradation/ Bioaccumulation:**<br>No product level data available. | 0.057% | Y |
| D175A | SLB | Antifoam Agent | **Acute Toxicity:**<br>None.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing, mutagens, or carcinogens.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>The product component(s) are not classified as environmentally hazardous.<br>Product not considered toxic to algae, fish, or invertebrates.<br>Contains no substance considered to be bioaccumulating or toxic. | 0.018% | Y |
| D176 | SLB | Expanding Additive | **Acute Toxicity:**<br>None known.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing or mutagens.<br>Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.<br>Product does not contain any known or suspected. | 0.057% | Y |
| D182 | SLB | Spacer | **Acute Toxicity:**<br>None.<br>**Chronic Toxicity:** | 0.053% | Y |

| B. PRODUCT LIST – SCHLUMBERGER | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | Product contains no components known to be sensitizing, mutagens, or carcinogens.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>The product component(s) are not classified as environmentally hazardous.<br>Product not considered toxic to algae, fish, or invertebrates.<br>Bioaccumulation is unlikely. | | |
| D186 | SLB | Enhancer | **Acute Toxicity:**<br>Calcium nitrate: LD50 Oral: 302 mg/kg.<br>2,2'-oxydiethanol: LD50 Oral: 12565 mg/kg, LD50 Dermal: 11890 mg/kg, LC50 Inhalation: >4600 mg/m3.<br>Calcium Bromide: LD50 Oral: 4100 mg/kg, LD50 Dermal: >2000 mg/kg, 2,2'-methyliminiodiethanol; LD50 Oral: 1945 mg/kg, LD50 Dermal: 10244 mg/kg, LC50 Inhalation: >6.5 mg/m3.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing, mutagens, or carcinogens.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>Calcium nitrate: Toxicity to Fish: LC50 10000 mg/L.<br>2,2'-oxydiethanol: Toxicity to Fish LC50 75200 mg/L, Toxicity to Invertebrates: 84000 mg/L 2,2'-methyliminiodiethanol; Toxicity to Fish LC50 >1000 mg/L, Toxicity to Algae: 20 mg/L Toxicity to Invertebrates: 230 mg/L.<br>**Biodegradation/ Bioaccumulation:**<br>Not readily biodegradable, bioaccumulation is unlikely. | 0.236% | Y |
| D194 | SLB | Retarder | **Acute Toxicity:**<br>None.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing, mutagens, or carcinogens.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Aquatic Ecotoxicity:**<br>Product is not considered toxic to algae, fish, or invertebrates.<br>**Biodegradation/ Bioaccumulation:**<br>No product level data is available. | 0.196% | Y |

| B. PRODUCT LIST – SCHLUMBERGER | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| D230 | SLB | Low Temperature Dispersant D230 | **Acute Toxicity:**<br>None.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing, mutagens, or carcinogens.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Aquatic Ecotoxicity:**<br>Product is not considered toxic to algae, fish, or invertebrates.<br>**Biodegradation/ Bioaccumulation:**<br>No product level data is available. | 0.005% | Y |
| D263 | SLB | High-Temperature Anti-settling Agent D263 | **Acute Toxicity:**<br>None<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing, mutagens, or carcinogens<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Aquatic Ecotoxicity:**<br>Product is not considered toxic to algae, fish, or invertebrates.<br>**Biodegradation/ Bioaccumulation:**<br>Not readily biodegradable, bioaccumulation is unlikely. | 0.015% | Y |
| D264 | SLB | Nano-Sealant D264 | **Acute Toxicity:**<br>Silicon Dioxide: LD50 Oral: >7900 mg/kg Ld50 Dermal: 5005 mg/kgL Ethlyene Glycol: LD50 Oral: 4700 mg/kg, LD50 Dermal: 10600 mg/kg.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing, mutagens, or carcinogens.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>SIlicon Dioxide Toxicity to Fish: LC50: = 5000 mg/L (96 h), Toxicity to Algae: EC50 = 440 mg/L Toxicity to Invertebrates: EC50 = 7600 mg/L Ethylene Glycol Toxicity to Fish: LC50 = 16000-41000 mg/L (96h), Toxicity to Algae: EC50 =6500-13000 Toxicity to Invertebrates: EC50= 46300 mg/L (48 h).<br>**Biodegradation/ Bioaccumulation:**<br>Not considered to be persistent, bioaccumulating, or toxic. | 0.002% | Y |

| B. PRODUCT LIST – SCHLUMBERGER | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| D500 | SLB | Gas Control Agent | **Acute Toxicity:**<br>None.<br>**Chronic Toxicity:**<br>Product contains no components known to be mutagens, or carcinogens.<br>Can be come skin sensitizing if stored improperly.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>The product component(s) are not classified as environmentally hazardous.<br>Product not considered toxic to algae, fish, or invertebrates.<br>**Biodegradation/Bioaccumulation:**<br>Not applicable, inorganic chemical. | 0.008% | YY |
| D590 | SLB | Base Additive | **Acute Toxicity:**<br>Cellulose: LD50 Oral: >5g/kg, LD50 Dermal: >2000 mg/kg, LC50 Inhalation: >5800 mg/m3<br>Sodium carbonate: LD50 Oral: 4090 mg/kg, LD50 Dermal: >2000 mg/kg, LC50 Inhalation: 2300 mg/m3<br>Calcium Bromide: LD50 Oral: 4100 mg/kg, LD50 Dermal: >2000 mg/kg, 2-methylpropan-2-ol; LD50 Oral: 2200 mg/kg, LD50 Dermal: 2 g/kg, LC50 Inhalation:>10000 ppm.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing, or mutagens. Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled. Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>Sodium Carbonate: LC50 (fish): 300 mg/L, EC50 (invertebrates): 265 mg/L.<br>Crystalline silica: LC50 (fish): 10000 mg/L EC50 (algae): >1000 mg/L, LC50 (invertebrates): >10000 mg/L 2-methylpropan-2-ol: LC50 (fish): 6130 mg/L EC50 (algae): >1000 mg/L, LC50 (invertebrates): >933 mg/L.<br>**Biodegradation/ Bioaccumulation:**<br>No product level data available. | 0.053% | Y |
| D592 | SLB | | **Acute Toxicity:**<br>Cellulose: LD50 Oral: >5g/kg, LD50 Dermal: >2000 mg/kg, LC50 Inhalation: >5800 mg/m3.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing, or mutagens. | 0.530% | Y |

| B. PRODUCT LIST – SCHLUMBERGER | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>Crystalline silica: LC50 (fish): 10000 mg/L EC50 (algae): >1000 mg/L, LC50 (invertebrates): >10000 mg/L. | | |
| D606 | SLB | Anti-Gel Agent | **Acute Toxicity:**<br>None.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing, mutagens, or carcinogens.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Aquatic Ecotoxicity:**<br>Product is not considered toxic to algae, fish, or invertebrates.<br>**Biodegradation/ Bioaccumulation:**<br>No product level data is available. | 0.029% | Y |
| D620 | SLB | GASBLOK* Gas Migration Control Additive D620 | **Acute Toxicity:**<br>Propane-1,2-diol: LD50 Oral (Rat): 20 g/kg, LD50 Dermal (Rabbit): 20,800 mg/kg 2-methyl-2h-isothiazol-3-one: LD50 Oral (Rat): 232-249 mg/kg, LD50 Dermal (Rabbit): 200 mg/kg, LD50 Inhalation (Rat): 0.11 mg/L (4 hour).<br>**Chronic Toxicity:**<br>Product may cause an allergic skin reaction. Product contains no known mutagens or carcinogens.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>Propane-1,2-diol: Toxicity to Fish: 710 mg/L, Toxicity to Algae: 19,000 mg/L, Toxicity to Invertebrates: >1,000 mg/L.<br>**Biodegradation:**<br>This product is not biodegradable.<br>**Bioaccumulation:**<br>Product does not bioaccumulate. | 0.011% | Y |
| D907 | SLB | Cement | **Acute Toxicity:** | 35.466% | Y |

| B. PRODUCT LIST – SCHLUMBERGER | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | None.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing, mutagenic, or carcinogenic.<br>**Ecotoxicity:**<br>Product is not considered toxic to algae, fish, or invertebrates.<br>**Biodegradation/ Bioaccumulation:**<br>Not applicable- Inorganic chemical. | | |
| D956 | SLB | Cement | **Acute Toxicity:**<br>Crystalline Silica: LD50 Oral: = 500 mg/kg.<br>**Chronic Toxicity:**<br>Product contains no components known to be sensitizing or mutagens.<br>Crystalline silica dust is listed by IARC as Group 1 carcinogen.<br>Product does not contain any known or suspected reproductive or developmental hazards.<br>**Ecotoxicity:**<br>Crystalline silica: Toxicity to Fish: LC50: = 10000 mg/L (96 h) Toxicity to Algae: EC50: >1000 mg/L (120 h), Toxicity to Invertebrates: EC50 >10000 mg/L (48 h).<br>**Biodegradation/ Bioaccumulation:**<br>Not applicable- Inorganic chemical. | 25.803% | Y |
| F103 | SLB | Surfactant | **Acute Toxicity**<br>Propan-2-ol: LD50 Oral (Rat): 1870 mg/kg, LD50 Dermal (Rabbit): 4059 mg/kg, LC50 Inhalation (Rat): 726000 mg/m3.<br>2-butoxyethanol: LD50 Oral (Rat): 1200 mg/kg, LD50 Dermal (Rat) >2000 mg/Kg, LC50 Inhalation (rabbit): >400 ppm.<br>Ethoxylated alcohol: LD50 Oral (Rat): 1600 mg/kg, LD50 Dermal (Rabbit): 2500 mg/kg, 1-undecanol (impurity): LD50 Oral (Rat): 3 g/kg, LD50 Dermal (Rabbit): 5 g/kg, LC50 Inhalation (Rat): >0.56 mg/L.<br>**Chronic Toxicity:**<br>Product does not contain any components known or suspected to be sensitizing, mutagenic, carcinogenic, developmental or any reproductive hazards.<br>**Ecotoxicity:**<br>Propan-2-ol: LC50 (Fish): 9640 mg/L LC50 (Algae): >1000 mg/L, EC50 (Invertebrates): 13299 mg/L 2-butoxyethanol: LC50 (Fish): 1490 mg/L, EC50 (Invertebrates): 1698 mg/L 1-undecanol (impurity): LC50 (Fish): 1.04 mg/L, LC50 (Algae): 2.7 mg/L, EC50 (Invertebrates): 4.78 mg/L. | 0.443% | Y |

| B. PRODUCT LIST – SCHLUMBERGER | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | **Biodegradation:**<br>Readily biodegradable.<br>**Bioaccumulation:**<br>Not likely to bioaccumulate | | |
| F110 | SLB | Surfactant | **Acute Toxicity:**<br>Methanol: LD50 Oral (Rat): 6200 mg/kg, LD50 Dermal (Rabbit): 15840 mg/kg, LC50 Inhalation (Rat 8h): 22500 ppm.<br>Alcohol, C9-C11, ethoxylatedl: LD50 Oral: 1378 mg/kg, LD50 dermal.<br>**Chronic Toxicity:**<br>Product does not contain any components known or suspected to be sensitizing, mutagenic, carcinogenic, developmental or reproductive hazards.<br>**Ecotoxicity:**<br>Harmful to aquatic life with long lasting effects.<br>Methanol: LC50 (Fish): 13500 mg/L, EC50 (Algae): 220000 mg/L, EC50 (Invertebrates): >10000 mg/L, Ethoxylated C11 alcohol: EC50 (Algae): 3.4 mg/L.<br>**Biodegradation:**<br>Contains components not expected to be biodegradable.<br>**Bioaccumulation:**<br>Product contains potentially bioaccumulating substance. | 0.053% | Y |
| S001 | SLB | Accelerator | **Acute Toxicity:**<br>Calcium Chloride: LD50 Dermal: 1000 mg/kg LS50 Dermal: 5005 mg/L<br>**Chronic Toxicity:**<br>No known sensitizing, carcinogenic, reproductive, or mutagenic effects<br>Product contains any known or suspected reproductive hazards.<br>Not known to cause birth defects or have a deleterious effect on a foetus.<br>**Ecotoxicity:**<br>Calcium Chloride: Toxicity to Fish: LC50: = 10650 mg/L (96 h) Toxicity to Invertebrates: EC50= 2400 mg/L (48 h).<br>**Biodegradation/ Bioaccumulation:**<br>Product is Inorganic. Contains no substance considered to be bioaccumulating or toxic. | 0.081% | Y |
| U066 | SLB | Mutual Solvent | **Acute Toxicity:**<br>2-butoxyethanol: LD50 Oral (guinea pig): 1200 mg/kg, LD50 Dermal (Rabbig) 1100 mg/kg, LC50 Inhalation (Rabbit): 400 ppm. | 0.443% | Y |

| B. PRODUCT LIST – SCHLUMBERGER | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Ecotoxicity Info** | **Product in system fluid (mass %)** | **SDS Attached** |
| | | | **Chronic Toxicity:**<br>Product contains no components known or suspected to be sensitizing, mutagens, or carcinogens.<br>Product does not contain any known or suspected reproductive hazards.<br>May be developmental hazard.<br>**Aquatic Ecotoxicity:**<br>2-butoxyethanol; LC50(96hr) Fish: 1490 mg/L; EC50 (24hr) Daphnia magna: 1720 mg/L.<br>**Biodegradation:**<br>Product is biodegradable.<br>**Bioaccumulation:**<br>Not expected to be bioaccumulating. | | |
| | | | **Total** | **100%** | |

| C. CHEMICAL LIST - SCHLUMBERGER | | |
|---|---|---|
| **Chemicals within products in Part B** | **CAS number** | **Maximum Mass fraction in System (%)** |
| Portland Cement Clinker | 65997-15-1 | ~ 54 |
| Water (Including Mix Water Supplied by Client) * | - | ~ 19 |
| Crystalline silica (impurity) | 14808-60-7 | ~ 10 |
| Calcium carbonate | 471-34-1 | ~ 9 |
| Barite | 13462-86-7 | ~ 4 |
| Sulfuric acid, calcium salt | 7778-18-9 | ~ 3 |
| Bentonite | 1302-78-9 | ~ 1 |
| Cellulose | 9004-34-6 | < 1 |
| 2-butoxyethanol | 111-76-2 | < 1 |
| Calcium chloride | 10043-52-4 | < 1 |
| Calcium lignosulfonate | 8061-52-7 | < 1 |
| Ethoxylated C11 Alcohol | 34398-01-1 | < 0.1 |
| Propan-2-ol | 67-63-0 | < 0.1 |
| Magnesium oxide | 1309-48-4 | < 0.1 |
| Sodium lignosulfonate | 8061-51-6 | < 0.1 |
| Polypropylene glycol | 25322-69-4 | < 0.1 |
| Calcium nitrate | 10124-37-5 | < 0.1 |
| Calcium nitrite | 13780-06-8 | < 0.1 |
| Calcium Magnesium Oxide | 37247-91-9 | < 0.1 |
| Naphthalenesulfonic acid, sodium salt, polymer with formaldehyde | 9008-63-3 | < 0.1 |
| Vinylamide/vinylsulfonated polymer | 110897-64-8 | < 0.1 |
| Ethoxylated Alcohol | 68131-39-5 | < 0.1 |
| Sulfurous acid, monosodium salt, polymer | 40104-76-5 | < 0.1 |
| Calcium oxide | 1305-78-8 | < 0.1 |
| Sodium sulfate (Impurity) | 7757-82-6 | < 0.1 |
| Calcium glucoheptonate | 17140-60-2 | < 0.1 |
| Sulfurous acid, monosodium salt, polymer with formaldehyde and 1,3,5-triazine-2,4,6-triamine | 64787-97-9 | < 0.1 |

| C. CHEMICAL LIST - SCHLUMBERGER | | |
|---|---|---|
| **Chemicals within products in Part B** | **CAS number** | **Maximum Mass fraction in System (%)** |
| Polysaccharide biopolymer | 72121-88-1 | < 0.1 |
| Silicic acid, sodium salt | 1344-09-8 | < 0.1 |
| 2,2' -oxydiethanol | 111-46-6 | < 0.1 |
| Methanol (impurity) | 67-56-1 | < 0.1 |
| Sodium gluconate | 527-07-1 | < 0.1 |
| 1-Propanesulfonic acid, 2-methyl-2-[(1-oxo-2-propen-1-yl) amino]-, sodium salt (1:1), polymer with 1-ethenyl-2-pyrrolidinone | 53845-64-0 | < 0.1 |
| Disodium metasilicate | 6834-92-0 | < 0.1 |
| Fumed silica | 69012-64-2 | < 0.1 |
| Tartaric acid | 87-69-4 | < 0.01 |
| Sodium chloride (impurity) | 7647-14-5 | < 0.01 |
| 1-undecanol (impurity) | 112-42-5 | < 0.01 |
| Calcium Bromide | 7789-41-5 | < 0.01 |
| Methacrylic acid-methoxy polyethylene glycol copolymer | 381164-40-5 | < 0.01 |
| Alcohol, C9-C11, Ethoxylated | 68439-46-3 | < 0.01 |
| Dimethyl siloxanes and silicones | 63148-62-9 | < 0.01 |
| 2,2'-Methyliminodiethanol | 105-59-9 | < 0.01 |
| Sodium hydroxide | 1310-73-2 | < 0.01 |
| Potassium chloride (impurity) | 7447-40-7 | < 0.01 |
| Sodium carbonate | 497-19-8 | < 0.01 |
| 2-Propenamide, N-(hydroxymethyl)-, polymer with 1,3-Butafiene and ethylbenzene | 26591-53-7 | < 0.01 |
| 2-methylpropan-2-ol (impurity) | 75-65-0 | < 0.01 |
| Silicon Dioxide | 7631-86-9 | < 0.01 |
| Sorbitan stearate | 1338-41-6 | < 0.01 |
| Iron (III) oxide (impurity) | 1309-37-1 | < 0.01 |
| Sodium pentaborate | 12007-92-0 | < 0.001 |
| Polyoxyethylene (40) stearic acid (monoester) | 9004-99-3 | < 0.001 |
| Aluminum oxide (impurity) | 1344-28-1 | < 0.001 |

| C. CHEMICAL LIST - SCHLUMBERGER | | |
|---|---|---|
| **Chemicals within products in Part B** | **CAS number** | **Maximum Mass fraction in System (%)** |
| Propane-1,2-diol | 57-55-6 | < 0.001 |
| Polyethylene glycol monomethyl ether | 9004-74-4 | < 0.001 |
| POLY(OXY- 1,2-ETHANEDIYL), .ALPHA.-SULFO-. OMEGA.-HYDROXY-, C12-C14-ALKYL ETHERS, SODIUM SALTS | 68891-38-3 | < 0.001 |
| Acetic acid, potassium salt (impurity) | 127-08-2 | < 0.001 |
| Polyvinylpyrrolidone | 9003-39-8 | < 0.001 |
| Vinyl acetal polymers, glutarals | 110532-37-1 | < 0.001 |
| Ethylene Glycol | 107-21-1 | < 0.001 |
| Pentasodium EDTMP | 7651-99-2 | < 0.001 |
| Isotridecanol, ethoxylated | 69011-36-5 | < 0.001 |
| 2-Propenamid (impurity) | 79-06-1 | < 0.001 |
| Alcohols, tallow, propoxylated | 70955-07-6 | < 0.0001 |
| Formaldehyde (impurity) | 50-00-0 | < 0.0001 |
| Hexacol tartrazine supra 1971green dye | 1934-21-0 | < 0.0001 |
| Alcohols, c10-12, ethoxylated propoxylated | 68154-97-2 | < 0.0001 |
| 2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol | 4719-04-4 | < 0.0001 |
| Sodium poly[(naphthaleneformaldehyde)sulfonate] | 9084-06-4 | < 0.0001 |
| Acetic acid (impurity) | 64-19-7 | < 0.0001 |
| Oxirane, methyl-, polymer with oxirane, octadecanoate | 51668-30-5 | < 0.0001 |
| Silica gel, pptd., cryst.-free | 112926-00-8 | < 0.0001 |
| 3,3'-methylenebis[5-methyloxazolidine] | 66204-44-2 | < 0.0001 |
| Sorbic acid | 110-44-1 | < 0.0001 |
| Poly(oxy-1,2-ethanediyl),a-hydro-w-hydroxy- Ethane-1,2-diol, ethoxylated | 25322-68-3 | < 0.0001 |
| Benzenesulfonic acid, 2,2'-[(9,10-dihydro-9,10-dioxo-1,4-anthracenediyl) diimino] bis [5-methyl-, disodium salt (acid Green 25) | 4403-90-1 | < 0.00001 |
| 1,2-benzisothiazolin-3-one | 2634-33-5 | < 0.00001 |
| Phosphonic acid (impurity) | 13598-36-2 | < 0.00001 |
| Phosphoric acid (impurity) | 7664-38-2 | < 0.00001 |
| 2-methyl-2h-isothiazol-3-one | 2682-20-4 | < 0.00001 |

| C. CHEMICAL LIST - SCHLUMBERGER | | |
|---|---|---|
| **Chemicals within products in Part B** | **CAS number** | **Maximum Mass fraction in System (%)** |
| 3,5,7-Triaza-1-azoniatricyclodecane-1-(3-chloro-2-propenyl)-, chloride | 4080-31-3 | < 0.00001 |
| 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one | 55965-84-9 | < 0.00001 |
| Sodium hydrogen carbonate | 144-55-8 | < 0.00001 |
| Styrene (impurity) | 100-42-5 | < 0.00001 |
| 1,3-Butadiene | 106-99-0 | < 0.00001 |
| Hexamethylenetetramine | 100-97-0 | < 0.00001 |
| Methylene Chloride | 75-09-2 | < 0.00001 |
| 1,3-Dichloropropene | 542-75-6 | < 0.00001 |
| | **Total** | **~100.00%** |

* Mix water is supplied by the client. Schlumberger has performed no analysis of the water and cannot provide a breakdown of components that may have been added to the water by third parties.

* The evaluation of attached document is performed based on the composition of the identified products to the extent that such compositional information was known to GRC - Chemicals as of the date of the document was produced. Any new updates will not be reflected in this document.

## 3. ALTERNATIVE DRILLING FLUID SYSTEM

| A. SYSTEM DETAILS: | |
|---|---|
| **OPERATOR:** | Warrego Energy Pty Ltd |
| **PROJECT / WELL NAME:** | Yuna East-1 and Yuna West-1 Exploration Wells (Permit EP 512) |
| **SYSTEM:** | Conductor Drilling Drilling Fluid System |
| **TOTAL VOLUME OF SYSTEM ($m^3$):** | $38m^3$ (includes 50% contingency) EACH WELL |

**B. PRODUCT LIST**

| Trade name | Supplier | Purpose | Toxicity & Eco toxicity Info | % Product in system fluid | SDS Attached |
|---|---|---|---|---|---|
| Water | N/A | Base Fluid | N/a | 98.74% | N/A |
| Soda Ash | Redox | Calcium Sequester | **Constituents:**<br>SODIUM CARBONATE.<br>**Acute Toxicity:**<br>LD50 Oral (Rat): 4090 mg/kg.<br>LC50 Inhalation (Rat): 2300 mg/m3 (2h).<br>**Chronic Toxicity:**<br>No known sensitizing, carcinogenic, reproductive, or mutagenic effects.<br>**Ecotoxicity:**<br>This product is not considered toxic to algae, fish, daphnia, or invertebrates.<br>LC50 (96h) Lepomis macrochirus: 300 mg/l.<br>LC50 (96h) Pimephales promelas: 310-1220 mg/l.<br>EC50 (120h) Nitzschia: 242 mg/l.<br>EC50 (48h) Daphnia magna: 265 mg/l.<br>**Biodegradation/Bioaccumulation:**<br>Not applicable – inorganic material. | 0.02% | Y |
| POLY-PLUS | MI Swaco | Viscosifier | **Constituents:**<br>HYDROTREATED LIGHT PETROLEUM DISTILLATE.<br>**Acute Toxicity:**<br>None.<br>**Chronic Toxicity:**<br>Does not contain any components suspected to be sensitizing, mutagenic, or carcinogenic.<br>No known reproductive or developmental toxicity. | 0.18% | Y |

| B. PRODUCT LIST | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | **Ecotoxicity:**<br>Not considered toxic to algae, fish, or invertebrates.<br>**Biodegradation/Bioaccumulation:**<br>No data available. | | |
| DUO-VIS | MI Swaco | Viscofier | **Constituents:**<br>GLYOXAL.<br>The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.<br>**Acute Toxicity:**<br>None.<br>**Chronic Toxicity:**<br>No known sensitizing or reproductive effects.<br>**Ecotoxicity:**<br>This product is not considered toxic to algae, fish, or invertebrates.<br>**Biodegradation/Bioaccumulation:**<br>Product is biodegradable, does not bioaccumulate. | 0.16% | Y |
| POLYPAC | MI Swaco | Fluid Loss | **Constituents:**<br>POLYANIONIC CELLULOSE.<br>**Acute Toxicity:**<br>LD50 Oral (Rat): 27000 mg/kg.<br>LD50 Dermal (Rabbit): >2 g/kg.<br>LC50 Inhalation (Rat): > 5800 mg/m3 (4h).<br>**Chronic Toxicity:**<br>No known carcinogenic properties or chronic impacts.<br>**Ecotoxicity:**<br>Not considered toxic to algae, fish, or invertebrates.<br>**Biodegradation/Bioaccumulation:**<br>Product is biodegradable, does not bio accumulate. | 0.25% | Y |
| `Nuosept 78 | Troy | Biocide | **Constituents:**<br>HEXAHYDRO-1,3,5-TRIS-(-2-HYDROXYETHYL)-S-TRIAZINE.<br>**Acute Toxicity:**<br>LD50 Oral (Rat - Female): 2000 mg/kg. | 0.01% | Y |

| B. PRODUCT LIST | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | LC50 Dermal (Rat): >1009-3950 mg/kg.<br>**Chronic Toxicity:**<br>No known carcinogenic, reproductive, or teratogenic effects.<br>Skin sensitizing.<br>**Ecotoxicity:**<br>Hexahydro-1,3,5-Tris-(-2-Hydroxyethyl)-S-Triazine.<br>LC50 (96h) (Danio rerio (zebra fish)): > 100 mg/l.<br>EC50 (48h) (Water flea (Daphnia magna)): >100 mg/l.<br>EC50 (72h) (Algae, algal mat (Algae)): > 10 < 100 mg/l.<br>2,2',2" -(Hexahydro-1,3,5-triazine-1,3,5-triyl) triethanol<br>LC50 (96h) (oncorhynchus mykiss (rainbow trout)): >100 mg/l.<br>EC50 (48h) (Water flea (Daphnia magna)): 27,9 mg/l ErC50 (72h) (Green Algae): > 10-100 mg/l.<br>**Biodegradation/Bioaccumulation:**<br>2,2',2" -(Hexahydro-1,3,5-triazine-1,3,5-triyl) triethanol.<br>Biodegradation: >70% (28d).<br>Readily Biodegradable.<br>Has low bioaccumulation potential. | | |
| PLATINUM ROD EASE | MI Swaco | Lubricant | **Acute Toxicity:**<br>The product component(s) are not classified as environmentally hazardous.<br>**Chronic Toxicity:**<br>Does not contain any components suspected to be sensitizing, mutagenic, or carcinogenic.<br>No known reproductive or developmental toxicity.<br>**Ecotoxicity:**<br>This product is not considered toxic to algae.<br>This product is not considered toxic to fish.<br>This product is not considered toxic to invertebrates.<br>**Biodegradation/Bioaccumulation:**<br>No product level data available. | 0.14% | Y |
| KLA-GARD | MI Swaco | Shale Control Agent | **Acute Toxicity:**<br>The product component(s) are not classified as environmentally hazardous.<br>**Chronic Toxicity:**<br>Does not contain any components suspected to be sensitizing, mutagenic, or carcinogenic.<br>No known reproductive or developmental toxicity. | 0.22% | Y |

| B. PRODUCT LIST | | | | | |
|---|---|---|---|---|---|
| **Trade name** | **Supplier** | **Purpose** | **Toxicity & Eco toxicity Info** | **% Product in system fluid** | **SDS Attached** |
| | | | **Ecotoxicity:**<br>This product is not considered toxic to algae.<br>This product is not considered toxic to fish.<br>This product is not considered toxic to invertebrates.<br>**Biodegradation/Bioaccumulation:**<br>Readily biodegradable (ECHA data) (PRODUCT).<br>Bioaccumulation is unlikely. (ECHA data) (PRODUCT). | | |
| RING FREE | MI Swaco | Drill fluid additive | **Constituents:**<br>POLYMER.<br>**Acute Toxicity:**<br>None.<br>**Chronic Toxicity:**<br>No known carcinogenic, mutagenic, or sensitizing properties or chronic impacts.<br>**Ecotoxicity:**<br>The product component(s) are not classified as environmentally hazardous.<br>Toxicity to algae: This product is not considered toxic to algae. LC50 / 72 hrs: > 100 mg/l (estimated).<br>**Biodegradation/Bioaccumulation:**<br>Not readily biodegradable. Does not bioaccumulate. | 0.27% | Y |
| | | | | **Total** | **100.00%** |

| C. Chemical List (Chemicals within fluid system identified in Table B) | | |
|---|---|---|
| **Chemicals Name** | **CAS number** | **Mass fraction (%)** |
| Water | - | 97.71410 % |
| Sodium carboxymethylcellulose | 9004-32-4 | 0.58128 % |
| Xanthan Gum | 11138-66-2 | 0.38403 % |
| 2-hydroxy-N,N,N-trimethylethanaminium chloride | 67-48-1 | 0.37396 % |
| Soybean oil, crude | 8001-22-7 | 0.29175 % |
| Sodium polyacrylate | 9003-04-7 | 0.29031 % |
| 2-Propenoic acid, polymer with 2-propenamide, sodium salt | 25987-30-8 | 0.10518 % |
| Distillates, petroleum, hydrotreated light | 64742-47-8 | 0.10518 % |
| Sodium carbonate | 497-19-8 | 0.04844 % |
| Oils, animal, mixed with vegetable oil Me esters, sulfurized | 68990-81-8 | 0.04462 % |
| 2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol | 4719-04-4 | 0.02591 % |
| Sorbitan, mono-(9Z)-9-octadecenoate | 1338-43-8 | 0.01052 % |
| Isotridecanol, ethoxylated | 69011-36-5 | 0.01052 % |
| Polyoxyethylene sorbitan trioleate | 9005-70-3 | 0.00686 % |
| Glyoxal | 107-22-2 | 0.00349 % |
| Ethane-1,2-diol (impurity) | 107-21-1 | 0.00267 % |
| 2-aminoethanol | 141-43-5 | 0.00100 % |
| N,N-dimethylmethanamine (impurity) | 75-50-3 | 0.00016 % |
| **Total** | | **100.00%** |

## 4. SDS – CONDUCTOR DRILLING

## 1. IDENTIFICATION

| | |
|---|---|
| **Product Name** | **Soda Ash Dense** |
| **Other Names** | Soda ash, dense; Sodium carbonate; Sodium carbonate, anhydrous; Washing soda |
| **Uses** | Cleaning agents and additives; Dishwashing and laundry detergents; Photochemicals; Fillers; Laboratory chemicals; pH-regulating/buffering agent in cosmetic products; Used in the manufacture of glass; Fuel gas desulphurisation; Water treatment and paper/pulp industry. |
| **Chemical Family** | No Data Available |
| **Chemical Formula** | Na2CO3 |
| **Chemical Name** | Carbonic acid, disodium salt |
| **Product Description** | Inorganic (alkaline) salt. |

### Contact Details of the Supplier of this Safety Data Sheet

| Organisation | Location | Telephone |
|---|---|---|
| Redox Ltd | 2 Swettenham Road<br>Minto NSW 2566<br>Australia | +61-2-97333000 |
| Redox Ltd | 11 Mayo Road<br>Wiri Auckland 2104<br>New Zealand | +64-9-2506222 |
| Redox Inc. | 3960 Paramount Boulevard<br>Suite 107<br>Lakewood CA 90712<br>USA | +1-424-675-3200 |
| Redox Chemicals Sdn Bhd | Level 2, No. 8, Jalan Sapir 33/7<br>Seksyen 33, Shah Alam Premier Industrial Park<br>40400 Shah Alam<br>Sengalor, Malaysia | +60-3-5614-2111 |

### Emergency Contact Details

*For emergencies only; DO NOT contact these companies for general product advice.*

| Organisation | Location | Telephone |
|---|---|---|
| Poisons Information Centre | Westmead NSW | 1800-251525<br>131126 |
| Chemcall | Australia | 1800-127406<br>+64-4-9179888 |

## 2. HAZARD IDENTIFICATION

**Poisons Schedule (Aust)** Not Scheduled

### Globally Harmonised System

**Hazard Classification** Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

**Hazard Categories** Serious Eye Damage/Irritation - Category 2A

**Pictograms**

| | | | |
|---|---|---|---|
| **Signal Word** | | Warning | |
| **Hazard Statements** | | **H319** | Causes serious eye irritation. |
| **Precautionary Statements** | Prevention | **P264** | Wash skin thoroughly after handling. |
| | | **P280** | Wear eye protection/face protection. |
| | Response | **P305 + P351 + P338** | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| | | **P337 + P313** | If eye irritation persists: Get medical advice/attention. |

**National Transport Commission (Australia)**
Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

| | |
|---|---|
| **Dangerous Goods Classification** | NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code) |

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

***Ingredients***

| Chemical Entity | Formula | CAS Number | Proportion |
|---|---|---|---|
| Sodium carbonate, anhydrous | Na2CO3 | 497-19-8 | >=99 - 100 % |

## 4. FIRST AID MEASURES

***Description of necessary measures according to routes of exposure***

| | |
|---|---|
| **Swallowed** | IF SWALLOWED: Rinse mouth, then drink plenty of water. Do not induce vomiting. Get immediate medical advice/attention. If vomiting occurs, give further water. Never give anything by mouth to an unconscious person. |
| **Eye** | IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention. |
| **Skin** | IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs, get medical advice/attention. |
| **Inhaled** | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Remove contaminated clothing and loosen remaining clothing. If respiratory symptoms persist, get medical advice/attention. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. |
| **Advice to Doctor** | Treat symptomatically. |
| **Medical Conditions Aggravated by Exposure** | No information available. |

## 5. FIRE FIGHTING MEASURES

| | |
|---|---|
| **General Measures** | If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out. |
| **Flammability Conditions** | Non-combustible; Material itself does not burn. |

| | |
|---|---|
| **Extinguishing Media** | If material is involved in a fire, use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Fire and Explosion Hazard** | Decomposes on heating, emitting toxic fumes. |
| **Hazardous Products of Combustion** | Fire or heat may produce irritating, toxic and/or corrosive fumes, including Carbon oxides, Sodium oxides. |
| **Special Fire Fighting Instructions** | Contain runoff from fire control or dilution water - Runoff may pollute waterways. |
| **Personal Protective Equipment** | Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. |
| **Flash Point** | No Data Available |
| **Lower Explosion Limit** | No Data Available |
| **Upper Explosion Limit** | No Data Available |
| **Auto Ignition Temperature** | No Data Available |
| **Hazchem Code** | No Data Available |

## 6. ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **General Response Procedure** | Ensure adequate ventilation. Do not touch or walk through spilled material - slipping hazard! Avoid dust formation. Avoid breathing dust and contact with eyes, skin and clothing. |
| **Clean Up Procedures** | Sweep or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers or drums for disposal (see SECTION 13). |
| **Containment** | Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. |
| **Decontamination** | After cleaning, flush away any residual traces with water.<br>*Prevent any mixture with an acid into the sewer/drain (gas formations). |
| **Environmental Precautionary Measures** | Prevent entry into drains and waterways. Local authorities should be advised if significant spillages cannot be contained. |
| **Evacuation Criteria** | Spill or leak area should be isolated immediately. Evacuate personnel to safe areas. Keep unauthorised personnel away. |
| **Personal Precautionary Measures** | Wear protective equipment to prevent skin and eye contact and breathing in dust (see SECTION 8). |

## 7. HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Minimise dust generation and accumulation. Avoid breathing dust and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Avoid extreme heat and contact with incompatible materials (see SECTION 10). |
| **Storage** | Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep containers closed when not in use - check regularly for spills. Avoid moisture/humidity. Avoid extreme heat. Keep away from foodstuffs and incompatible materials (see SECTION 10). |
| **Container** | Keep in properly labelled original container or suitable packaging material, i.e. Polyethylene, woven plastic material + PE. Do not store in moisture permeable material. |

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| | |
|---|---|
| **General** | No value assigned for this specific material by Safe Work Australia. For dusts from solid substances without specific occupational exposure standards:<br>- Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m3, measured as inhalable dust).<br>- New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m3; TWA = 3 mg/m3 (respirable). |
| **Exposure Limits** | No Data Available |
| **Biological Limits** | No information available. |

| | |
|---|---|
| **Engineering Measures** | Provide appropriate exhaust ventilation at places where dust is formed. Apply technical measures to comply with the occupational exposure limits. |
| **Personal Protection Equipment** | - Respiratory protection: Wear respiratory protection in case of inadequate ventilation or an inhalation risk exists. Recommended: Dust mask/particulate respirator (refer to AS/NZS 1715 & 1716).<br>- Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Safety glasses with side shields or protective goggles.<br>- Hand protection: Handle with gloves. Recommended: Impervious gloves, e.g. neoprene, natural rubber.<br>- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Long-sleeved protective clothing; Overalls or dust-impervious protective suit; Apron (rubber or plastic); Safety shoes or boots (rubber or plastic). |
| **Special Hazards Precaustions** | No information available. |
| **Work Hygienic Practices** | Do not eat, drink or smoke when using this product. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Physical State** | Solid |
| **Appearance** | Granular or powder |
| **Odour** | Odourless |
| **Colour** | White |
| **pH** | 10.3 - 11.3 (10 g/L aqueous solution) |
| **Vapour Pressure** | Negligible (@ No Data Available) |
| **Relative Vapour Density** | No Data Available |
| **Boiling Point** | No Data Available |
| **Melting Point** | 851 °C |
| **Freezing Point** | No Data Available |
| **Solubility** | Soluble in water |
| **Specific Gravity** | 2.53 (Water = 1) |
| **Flash Point** | No Data Available |
| **Auto Ignition Temp** | No Data Available |
| **Evaporation Rate** | No Data Available |
| **Bulk Density** | No Data Available |
| **Corrosion Rate** | No Data Available |
| **Decomposition Temperature** | >=400 °C |
| **Density** | No Data Available |
| **Specific Heat** | No Data Available |
| **Molecular Weight** | No Data Available |
| **Net Propellant Weight** | No Data Available |
| **Octanol Water Coefficient** | No Data Available |
| **Particle Size** | No Data Available |
| **Partition Coefficient** | No Data Available |
| **Saturated Vapour Concentration** | No Data Available |
| **Vapour Temperature** | No Data Available |
| **Viscosity** | No Data Available |
| **Volatile Percent** | No Data Available |
| **VOC Volume** | No Data Available |
| **Additional Characteristics** | Hygroscopic: absorbs moisture or water from surrounding air. |
| **Potential for Dust Explosion** | No information available. |
| **Fast or Intensely Burning Characteristics** | No information available. |
| **Flame Propagation or Burning Rate of Solid Materials** | No information available. |

| | |
|---|---|
| **Non-Flammables That Could Contribute Unusual Hazards to a Fire** | No information available. |
| **Properties That May Initiate or Contribute to Fire Intensity** | Non-combustible; Material itself does not burn. |
| **Reactions That Release Gases or Vapours** | Decomposes on heating, emitting toxic fumes, including Carbon dioxide. |
| **Release of Invisible Flammable Vapours and Gases** | No information available. |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **General Information** | Reacts exothermically with strong acids evolving carbon dioxide. |
| **Chemical Stability** | Stable if stored and handled under recommended conditions. |
| **Conditions to Avoid** | Avoid generating dust. Avoid exposure to moisture. Avoid exposure to heat. |
| **Materials to Avoid** | Incompatible/reactive with acids, phosphorus pentoxide, aluminium, lead, magnesium, iron, zinc, fluorine. |
| **Hazardous Decomposition Products** | Decomposes on heating, emitting toxic fumes, including Carbon dioxide. |
| **Hazardous Polymerisation** | Hazardous polymerisation does not occur. |

## 11. TOXICOLOGICAL INFORMATION

**General Information**

- Acute toxicity: Low acute toxicity following oral, dermal and inhalation exposure. In case of ingestion, may cause severe irritation, nausea, abdominal pain, vomiting, diarrhoea.
- Skin corrosion/irritation: Prolonged contact may cause skin irritation.
- Eye damage/irritation: Causes serious eye irritation; may cause redness, lachrymation, swelling.
- Respiratory/skin sensitisation: Not a skin sensitiser.
- Germ cell mutagenicity: Not considered to be genotoxic.
- Carcinogenicity: Not considered carcinogenic.
- Reproductive toxicity: Does not show specific reproductive or developmental toxicity.
- STOT (single exposure): In case of inhalation at high concentrations, may cause cough, nose, throat and lung irritation.
- STOT (repeated exposure): Carbonate ions are neutralised under physiological conditions to form bicarbonate ions and/or carbon dioxide, which are major products of all human metabolic activities; therefore, systemic toxicity is not expected. Risk of sore throat, nose bleeds in case of repeated or prolonged inhalation exposure.
- Aspiration toxicity: No information available.

***Acute***

| | |
|---|---|
| **Ingestion** | Acute toxicity (Oral):<br>- LD50, Rats: >2,800 mg/kg [Supplier's SDS]. |
| **Other** | Acute toxicity (Dermal):<br>- LD50, Rabbit: >2,000 mg/kg [Supplier's SDS]. |
| **Inhalation** | Acute toxicity (Inhalation):<br>- LC50, Rat: 2.3 mg/l (2 h) [Supplier's SDS]. |
| **Carcinogen Category** | None |

## 12. ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity** | Aquatic toxicity:<br>- LC50, Fish (Lepomis macrochirus): 300 mg/L (96 h).<br>- EC50, Crustacea (Ceriodaphnia dubia): 200 mg/L (48 h). |
| **Persistence/Degradability** | Sodium carbonate is an inorganic substance. In the presence of water, it will fully dissociate to sodium and carbonate ions which will disperse in the various media. |
| **Mobility** | Solid sodium carbonate has a negligible vapour pressure and for this reason it will not be distributed to the atmosphere. If sodium carbonate is emitted to water it will remain in the water phase. If the pH is decreased then |

| | |
|---|---|
| | carbonic acid (H2CO3 or CO2) can be formed. If the concentration of carbon dioxide in water is above the water solubility limit, the carbon dioxide will distribute to the atmosphere. If sodium carbonate is emitted to soil it can escape to the atmosphere as CO2, precipitate as a metal carbonate, form complexes or stay in solution. |
| **Environmental Fate** | Prevent entry into drains and waterways. |
| **Bioaccumulation Potential** | Does not bioaccumulate. The substance dissociates fully on introduction to water.<br>*Log Po/w is not applicable for an inorganic compound which dissociates. |
| **Environmental Impact** | No Data Available |

## 13. DISPOSAL CONSIDERATIONS

| | |
|---|---|
| **General Information** | If recycling is not practicable, dispose of in accordance with local/regional/national regulations. |
| **Special Precautions for Land Fill** | Packaging disposal: Where possible, recycling is preferred to disposal or incineration. Clean container with water; Dispose of rinse water in accordance with local and national regulations. |

## 14. TRANSPORT INFORMATION

### Land Transport (Australia)
ADG Code

| | |
|---|---|
| **Proper Shipping Name** | Dense Soda Ash |
| **Class** | No Data Available |
| **Subsidiary Risk(s)** | No Data Available |
| | No Data Available |
| **UN Number** | No Data Available |
| **Hazchem** | No Data Available |
| **Pack Group** | No Data Available |
| **Special Provision** | No Data Available |
| **Comments** | NON-DANGEROUS GOODS: Not regulated for LAND transport. |

### Sea Transport
IMDG Code

| | |
|---|---|
| **Proper Shipping Name** | Dense Soda Ash |
| **Class** | No Data Available |
| **Subsidiary Risk(s)** | No Data Available |
| **UN Number** | No Data Available |
| **Hazchem** | No Data Available |
| **Pack Group** | No Data Available |
| **Special Provision** | No Data Available |
| **EMS** | No Data Available |
| **Marine Pollutant** | No |
| **Comments** | NON-DANGEROUS GOODS: Not regulated for SEA transport. |

### Air Transport
IATA DGR

| | |
|---|---|
| **Proper Shipping Name** | Dense Soda Ash |
| **Class** | No Data Available |
| **Subsidiary Risk(s)** | No Data Available |

| | |
|---|---|
| **UN Number** | No Data Available |
| **Hazchem** | No Data Available |
| **Pack Group** | No Data Available |
| **Special Provision** | No Data Available |
| **Comments** | NON-DANGEROUS GOODS: Not regulated for AIR transport. |

### National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

| | |
|---|---|
| **Dangerous Goods Classification** | NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code) |

## 15. REGULATORY INFORMATION

| | |
|---|---|
| **General Information** | ALKALINE SALTS, being the carbonate, silicate or phosphate salts of sodium or potassium alone or in any combination, are listed in Schedule 5 of the SUSMP in (other) solid preparations, the pH of which in a 10 g/L aqueous solution is more than 11.5. |
| **Poisons Schedule (Aust)** | Not Scheduled |

### National/Regional Inventories

| | |
|---|---|
| **Australia (AICS)** | Listed |
| **Canada (DSL)** | Listed |
| **Canada (NDSL)** | Not Listed |
| **China (IECSC)** | Listed |
| **Europe (EINECS)** | 207-838-8 |
| **Europe (REACh)** | Listed |
| **Japan (ENCS/METI)** | 1-164 |
| **Korea (KECI)** | KE-31380 |
| **Malaysia (EHS Register)** | Listed |
| **New Zealand (NZIoC)** | Listed |
| **Philippines (PICCS)** | Listed |
| **Switzerland (Giftliste 1)** | Not Determined |
| **Switzerland (Inventory of Notified Substances)** | Not Determined |
| **Taiwan (NCSR)** | Listed |
| **USA (TSCA)** | Listed |

## 16. OTHER INFORMATION

SOCABR1000, SOCABR1100, SOCABR2000, SOCARB0005, SOCARB0215, SOCARB1000, SOCARB1001,

**Related Product Codes**

SOCARB1002, SOCARB1003, SOCARB1004, SOCARB1005, SOCARB1006, SOCARB1007, SOCARB1008, SOCARB1009, SOCARB1010, SOCARB1011, SOCARB1012, SOCARB1013, SOCARB1014, SOCARB1015, SOCARB1016, SOCARB1017, SOCARB1018, SOCARB1019, SOCARB1022, SOCARB1100, SOCARB1101, SOCARB1102, SOCARB1103, SOCARB1104, SOCARB1105, SOCARB1106, SOCARB1107, SOCARB1108, SOCARB1109, SOCARB1110, SOCARB1112, SOCARB1113, SOCARB1114, SOCARB1140, SOCARB1150, SOCARB1160, SOCARB1200, SOCARB1201, SOCARB1202, SOCARB1210, SOCARB1211, SOCARB1212, SOCARB1240, SOCARB1300, SOCARB1500, SOCARB1501, SOCARB1502, SOCARB1650, SOCARB1700, SOCARB1807, SOCARB1808, SOCARB1809, SOCARB1810, SOCARB1811, SOCARB1812, SOCARB1813, SOCARB1814, SOCARB1815, SOCARB1816, SOCARB1817, SOCARB1818, SOCARB2100, SOCARB2150, SOCARB2500, SOCARB2501, SOCARB2502, SOCARB2503, SOCARB2504, SOCARB2505, SOCARB2515, SOCARB2525, SOCARB2530, SOCARB2600, SOCARB3000, SOCARB3010, SOCARB3020, SOCARB3030, SOCARB3040, SOCARB4000, SOCARB4600, SOCARB4700, SOCARB4701, SOCARB5000, SOCARB5001, SOCARB5100, SOCARB5200, SOCARB5300, SOCARB5500, SOCARB5501, SOCARB5510, SOCARB5600, SOCARB5601, SOCARB5602, SOCARB5605, SOCARB5606, SOCARB5608, SOCARB5609, SOCARB5610, SOCARB5611, SOCARB5700, SOCARB5800, SOCARB5900, SOCARB6000, SOCARB6001, SOCARB6100, SOCARB6200, SOCARB6500, SOCARB6501, SOCARB6600, SOCARB6601, SOCARB6700, SOCARB7000, SOCARB7001, SOCARB7002, SOCARB7003, SOCARB8000, SOCARB8001, SOCARB8002, SOCARB8003, SOCARB8100, SOCARB8101, SOCARB9000, SOCARB9200, SOCARB9201, SOCARB9500, SOCARB9600, SOCARB9990, SOCARF1000, SOCARF1001, SOCARF1100, SOCARF2500, SOCARF3000, SOCARF4000, SOCARF5000, SOCARF5001, SOCARF5002, SOCARF5100, SOCARF5200, SOCARF9900, SODCAB1000, SODCAB1001, SODCAB1002, SODCAB1003, SODCAB1004, SODCAB1005, SODCAB1006, SODCAB1100, SODCAB1101, SODCAB1102, SODCAB1103, SODCAB1104, SODCAB1105, SODCAB1106, SODCAB1107, SODCAB1108, SODCAB1140, SODCAB1200, SODCAB1210, SODCAB1240, SODCAB2100, SODCAB2101, SODCAB2102, SODCAB2151, SODCAB2600, SODCAB2601, SODCAB2700, SODCAB2800, SODCAB2900, SODCAB2901, SODCAB3000, SODCAB3001, SODCAB3100, SODCAB3101, SODCAB3200, SODCAB3300, SODCAB3400, SODCAB3500, SODCAB3501, SODCAB3503, SODCAB3600, SODCAB3700, SODCAB3800, SODCAB3900, SODCAB3901, SODCAB3902, SODCAB4000, SODCAB4100, SODCAB4200, SODCAB4300, SODCAB4400, SODCAB5500, SODCAB5800, SODCAB5801, SODCAB5900, SODCAB5910, SODCAB6000, SODCAB6001, SODCAB6010, SODCAB6015, SODCAB6100, SODCAB6500, SODCAB6501, SODCAB6600, SODCAB6601, SODCAB6605, SODCAB7000, SODCAB7500, SODCAB7600, SODCAB8000, SODCAB8800, SODCAB9000, SODCAB9500, SODCAB9600, SODCAL1000, SODCAR0500, SODCAR0501, SODCAR0502, SODCAR0503, SODCAR1000, SODCAR1001, SODCAR1002, SODCAR1003, SODCAR1004, SODCAR1005, SODCAR1006, SODCAR1007, SODCAR1008, SODCAR1009, SODCAR1010, SODCAR1100, SODCAR1101, SODCAR1200, SODCAR2000, SODCAR2001, SODCAR3000, SODCAR3001, SODCAR3100, SODCAR3300, SODCAR3400, SODCAR3500, SODCAR4000, SODCAR5000, SODCAR5001, SODCAR5500, SODCAR6500, SODCAR7000, SODCAR7500, SODCAR9000, SODCAR9500

**Revision**

5

**Revision Date**

11 Nov 2021

**Key/Legend**

**<** Less Than
**>** Greater Than
**AICS** Australian Inventory of Chemical Substances
**atm** Atmosphere
**CAS** Chemical Abstracts Service (Registry Number)
**cm²** Square Centimetres
**CO2** Carbon Dioxide
**COD** Chemical Oxygen Demand
**deg C (°C)** Degrees Celcius
**EPA (New Zealand)** Environmental Protection Authority of New Zealand
**deg F (°F)** Degrees Farenheit
**g** Grams
**g/cm³** Grams per Cubic Centimetre
**g/l** Grams per Litre
**HSNO** Hazardous Substance and New Organism
**IDLH** Immediately Dangerous to Life and Health
**immiscible** Liquids are insoluable in each other.
**inHg** Inch of Mercury
**inH2O** Inch of Water
**K** Kelvin
**kg** Kilogram
**kg/m³** Kilograms per Cubic Metre
**lb** Pound
**LC50** LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
**LD50** LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
**ltr** or **L** Litre
**m³** Cubic Metre
**mbar** Millibar
**mg** Milligram
**mg/24H** Milligrams per 24 Hours
**mg/kg** Milligrams per Kilogram
**mg/m³** Milligrams per Cubic Metre
**Misc** or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.

**mm** Millimetre
**mmH2O** Millimetres of Water
**mPa.s** Millipascals per Second
**N/A** Not Applicable
**NIOSH** National Institute for Occupational Safety and Health
**NOHSC** National Occupational Heath and Safety Commission
**OECD** Organisation for Economic Co-operation and Development
**Oz** Ounce
**PEL** Permissible Exposure Limit
**Pa** Pascal
**ppb** Parts per Billion
**ppm** Parts per Million
**ppm/2h** Parts per Million per 2 Hours
**ppm/6h** Parts per Million per 6 Hours
**psi** Pounds per Square Inch
**R** Rankine
**RCP** Reciprocal Calculation Procedure
**STEL** Short Term Exposure Limit
**TLV** Threshold Limit Value
**tne** Tonne
**TWA** Time Weighted Average
**ug/24H** Micrograms per 24 Hours
**UN** United Nations
**wt** Weight

**SDS no.** PID1231
**Version** 13
**Revision date** 09-Nov-2018
**Supersedes Date:** 09-Jul-2018

# Safety Data Sheet
## POLY-PLUS*

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** POLY-PLUS*
**Product code** PID1231

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Shale control agent. Viscosifier. Friction reducer. Flocculating agent

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
M-I Australia Pty Ltd
ABN: 67 009 214 162
Level 5
256 St. George Tce
Perth
WA 6000
T = +61 08 9440 2900
F = +61 08 9322 3080
+47 51577424

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

-

**Contains**
Hydrocarbons, C12-C15, n-alkanes, isoalkanes < 2% aromatics*

Isotridecanol, ethoxylated

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria
May cause slight irritation

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Hydrocarbons, C12-C15, n-alkanes, isoalkanes < 2% aromatics* | 920-107-4 | RM1003179 | 30-60 |
| Isotridecanol, ethoxylated | NLP | 69011-36-5 | <3 |

**Comments**
OECD Test No. 437: Bovine Corneal Opacity and Permeability Test Method for Identifying i) Chemicals Inducing Serious Eye Damage and ii) Chemicals Not Requiring Classification for Eye Irritation or Serious Eye Damage: Not Irritant

The viscosity of this product is high enough that it is not an aspiration risk and the H304 phrase does not apply.

.

The product contains other ingredients which do not contribute to the overall classification.

*Substances which have an EC Number that begins with the number "9" is a Provisional List Number. The list numbers published by ECHA do not have any legal significance. The EC substance definition and related classification & labelling has been developed in the framework of the Regulation (EC) No 1907/2006 (REACH). For information about the related CAS number see section 15 of this SDS.

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** — If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** — Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.

| | |
|---|---|
| **Skin contact** | Wash skin thoroughly with soap and water. Get medical attention if irritation persists. |
| **Eye Contact** | Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues. |

### 4.2. Most important symptoms and effects, both acute and delayed

| | |
|---|---|
| **General advice** | The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible. |
| **Symptoms** | |
| **Inhalation** | Please see Section 11. Toxicological Information for further information. |
| **Ingestion** | Please see Section 11. Toxicological Information for further information. |
| **Skin contact** | Please see Section 11. Toxicological Information for further information. |
| **Eye contact** | Please see Section 11. Toxicological Information for further information. |

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water Fog, Alcohol Foam, $CO_2$, Dry Chemical.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx), Nitrogen oxides (NOx), Hydrogen cyanide (hydrocyanic acid).

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8. If spilled, take caution, as material can cause surfaces to become very slippery.

### 6.2 Environmental precautions

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to applicable federal, state and local regulations.

**Environmental exposure controls**
Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. Do not eat, drink or smoke when using this product Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Avoid heat, flames and other sources of ignition. Keep away from direct sunlight. Avoid contact with: Oxidizing agents Protect from freezing Keep at >5 - <30°C |
| **Storage class** | Chemical storage. |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

| | |
|---|---|
| **Exposure limits** | Oil mist (mineral) workplace exposure limits are currently under review by legislative authorities. This workplace exposure limit (WEL) standard is applicable to highly refined mineral oils and is provided as a guidance limit only LT. EXP = 5mg/m$^3$ and ST. EXP = 10mg/m$^3$.<br>No biological limit allocated |

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Hydrocarbons, C12-C15, n-alkanes, isoalkanes < 2% aromatics* | Not determined | Not determined | Not determined |
| Isotridecanol, ethoxylated | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Hydrocarbons, C12-C15, n-alkanes, isoalkanes < 2% aromatics* | Not determined | Not determined | Not determined |
| Isotridecanol, ethoxylated | Not determined | Not determined | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Hydrocarbons, C12-C15, n-alkanes, isoalkanes < 2% aromatics* | Not determined | Not determined | Not determined |
| Isotridecanol, ethoxylated | Not determined | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Hydrocarbons, C12-C15, n-alkanes, isoalkanes < 2% aromatics* | Not determined | Not determined | Not determined |
| Isotridecanol, ethoxylated | Not determined | Not determined | Not determined |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Hydrocarbons, C12-C15, n-alkanes, isoalkanes < 2% aromatics* | Not determined | Not determined | Not determined |
| Isotridecanol, ethoxylated | Not determined | Not determined | Not determined |

## 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

**Eye protection**
Use eye protection according to EN 166, designed to protect against liquid splashes Tightly fitting safety goggles Safety glasses with side-shields

**Hand protection**
Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: PVC Nitrile Neoprene
Break through time >480 minutes
Glove thickness >=0.4 mm
Be aware that liquid may penetrate the gloves. Frequent change is advisable.

**Respiratory protection**
No personal respiratory protective equipment normally required In case of insufficient ventilation wear suitable respiratory equipment Respirator with a vapor filter (EN 141) Use respirator with organic vapor protection (A, brown) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection**
Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures**
Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

### 8.2.3 Environmental exposure controls

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Viscous |
| **Odor** | Hydrocarbon-like |
| **Color** | Milky |
| **Odor threshold** | Not applicable |

| Property | Values | Remarks |
|---|---|---|
| **pH** | No information available | |
| **pH @ dilution** | 8.0 - 9.0 | @ 1% |
| **Melting / freezing point** | No information available | |
| **Boiling point/range** | No information available | |
| **Flash point** | > 93.3 °C / > 200 °F | PMCC |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability (solid, gas)** | Not applicable | |
| **Flammability Limit in Air** | | |
| **Upper flammability limit** | Not applicable | |
| **Lower flammability limit** | Not applicable | |
| **Vapor pressure** | 0.002 mmHg | @ 20°C (68°F) °C |
| **Vapor density** | No information available | |
| **Specific gravity** | 1.07 - 1.10 | 20 °C |
| **Bulk density** | No information available | |
| **Relative density** | No information available | |
| **Water solubility** | Miscible with water. | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | > 20.5 cSt | @ 40 °C |
| **Dynamic viscosity** | No information available | |
| **log Pow** | No information available | |

| | |
|---|---|
| **Explosive properties** | Not applicable |
| **Oxidizing properties** | None known. |

### 9.2 Other information

| | |
|---|---|
| **Pour point** | -28.9°C / -20°F |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |
| **Density** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Keep away from direct sunlight. Avoid frost. Keep at temperatures between >5-<30°C. Avoid heat, flames and other sources of ignition.

### 10.5 Incompatible materials

Oxidizing agents.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Product information** OECD Test No. 437: Bovine Corneal Opacity and Permeability Test Method for Identifying i) Chemicals Inducing Serious Eye Damage and ii) Chemicals Not Requiring Classification for Eye Irritation or Serious Eye Damage: Not Irritant.

**Inhalation** Inhalation of vapors in high concentration may cause irritation of respiratory system.

**Eye contact** May cause slight irritation.

**Skin contact** Prolonged contact may cause redness and irritation.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Hydrocarbons, C12-C15, n-alkanes, isoalkanes < 2% aromatics* | > 5000 mg/kg (OECD 401), Rat | > 5000 mg/kg (OECD 402), Rabbit | = 4951 mg/kg (OECD 403) 4H, Rat |
| Isotridecanol, ethoxylated | 500-2000 mg/kg Rat | > 2000 mg/kg | No data available |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of exposure** Inhalation.

**Routes of entry** Inhalation.

| | |
|---|---|
| **Specific target organ toxicity - Single exposure** | Not classified |
| **Specific target organ toxicity - Repeated exposure** | Not classified. |
| **Aspiration hazard** | The viscosity of this product is high enough that it is not an aspiration risk and the H304 phrase does not apply. |
| **Other information** | Key literature references and sources for data. See Section 16 for more information. |

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

**Toxicity to algae**
IC50- 72 hours: > 100 mg/l (PRODUCT).

**Toxicity to fish**
LC50 - Oncorhynchus mykiss - 96 hours: > 100 mg/l (PRODUCT).

**Toxicity to daphnia and other aquatic invertebrates**
EC50 - Daphina - 48 hours: > 100 mg/l (PRODUCT).

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Hydrocarbons, C12-C15, n-alkanes, isoalkanes < 2% aromatics* | > 1000 mg/l (OECD 201) Oncorhynchus mykiss/96 hours | > 1000 mg/l (OECD 201) Pseudokirchneriella subcapitata/72 hours | > 1000 mg/l (OECD 202) Daphnia magna/48 hours |
| Isotridecanol, ethoxylated | = 1-10 mg/l (OECD 203) Cyprinus carpio/96 hours | = 1-10 mg/l (OECD 201) Desmodesmus subspicatus/72 hours | = 1-10 mg/l (OECD 202) Daphnia magna/72 hours |

### 12.2 Persistence and degradability

Readily biodegradable. See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Hydrocarbons, C12-C15, n-alkanes, isoalkanes < 2% aromatics* | Readily biodegradable |
| Isotridecanol, ethoxylated | Readily biodegradable |

### 12.3 Bioaccumulative potential

Bioaccumulation is unlikely. See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Hydrocarbons, C12-C15, n-alkanes, isoalkanes < 2% aromatics* | Does not bioaccumulate |
| Isotridecanol, ethoxylated | Does not bioaccumulate |

### 12.4 Mobility

**Mobility**
The product is miscible with water. May spread in water systems. See component information below.

| Chemical Name | Mobility |
|---|---|
| Hydrocarbons, C12-C15, n-alkanes, isoalkanes < 2% aromatics* | Insoluble |
| Isotridecanol, ethoxylated | Practically insoluble |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| Hydrocarbons, C12-C15, n-alkanes, isoalkanes < 2% aromatics* | No information available |
| Isotridecanol, ethoxylated | No information available |

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

### 12.6 Other adverse effects.

None known.

### 12.7 Other information
Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

### 14.1. UN number
Not regulated

### 14.2. UN proper shipping name
The product is not covered by international regulation on the transport of dangerous goods

### 14.3 Hazard class(es)
**ADR/RID/ADN/ADG Hazard class** Not regulated
**IMDG/ANTAQ Hazard class** Not regulated
**ICAO/ANAC Hazard class/division** Not regulated

### 14.4 Packing group

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated
**New Zealand Hazard Classification** Not classified

**HSNO approval no.** Not required.

**Group number** Not required.

**National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].**

**National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].**

**National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].**

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |

| | |
|---|---|
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

CAS Number 64742-47-8 can be used to identify the substance given a list number in section 3 in areas not subject to the REACH regulation.

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 09-Jul-2018 |
| **Revision date** | 09-Nov-2018 |
| **Version** | 13 |
| **This SDS has been revised in the following section(s)** | 6. Accidental release measures No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

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**SDS no.** PID510
**Version** 12
**Revision date** 16-Nov-2018
**Supersedes Date:** 09-Jul-2018

# Safety Data Sheet
## DUO-VIS*

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** DUO-VIS*
**Product code** PID510

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Viscosifier.

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
M-I Australia Pty Ltd
ABN: 67 009 214 162
Level 5
256 St. George Tce
Perth
WA 6000
T = +61 08 9440 2900
F = +61 08 9322 3080
+47 51577424

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

-

**Contains**
Glyoxal

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria
Product dust may be irritating to eyes, skin and respiratory system
Suspended dust may present a dust explosion hazard

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Glyoxal | 203-474-9 | 107-22-2 | <1 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification.

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** — If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** — Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** — Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.

**Eye Contact** — Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** — The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

| | |
|---|---|
| **Inhalation** | Please see Section 11. Toxicological Information for further information. |
| **Ingestion** | Please see Section 11. Toxicological Information for further information. |
| **Skin contact** | Please see Section 11. Toxicological Information for further information. |
| **Eye contact** | Please see Section 11. Toxicological Information for further information. |

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water Fog, Alcohol Foam, $CO_2$, Dry Chemical.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
Dust may form explosive mixture in air.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx).

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Material becomes slippery when wet. Use caution if wet.

### 6.2 Environmental precautions

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to applicable federal, state and local regulations.

**Environmental exposure controls**
Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**
Take precautionary measures against static discharges. Sweep up and shovel into suitable containers for disposal. Avoid dust formation. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Persons susceptible to allergic reactions should not handle this product.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. Do not eat, drink or smoke when using this product Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Take precautionary measures against static discharges. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Suspended dust may present a dust explosion hazard Avoid heat, flames and other sources of ignition. Protect from moisture Avoid contact with: Strong oxidizing agents

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** No biological limit allocated

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Glyoxal | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Glyoxal | Not determined | Not determined | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Glyoxal | Not determined | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Glyoxal | Not determined | Not determined | Not determined |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Glyoxal | Not determined | Not determined | Not determined |

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Local exhaust ventilation

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Use eye protection according to EN 166, designed to protect against powders and dusts Safety glasses with side-shields Tightly fitting safety goggles |
| **Hand protection** | Wear gloves according to EN 374 to protect against skin effects from powders Use protective gloves made of: Butyl Neoprene Nitrile Frequent change is advisable |
| **Respiratory protection** | No personal respiratory protective equipment normally required In case of insufficient ventilation wear suitable respiratory equipment Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Solid |
| **Appearance** | Powder Dust |
| **Odor** | Mild |
| **Color** | Cream - Tan |
| **Odor threshold** | Not applicable |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | Not applicable | |
| **pH @ dilution** | 7 | @ 1% sol. |
| **Melting / freezing point** | No information available | |
| **Boiling point/range** | No information available | |
| **Flash point** | No information available | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability (solid, gas)** | Not applicable | |
| **Flammability Limit in Air** | | |
| **Upper flammability limit** | Not applicable | |
| **Lower flammability limit** | Not applicable | |
| **Vapor pressure** | No information available | |

| | | |
|---|---|---|
| **Vapor density** | No information available | |
| **Specific gravity** | 1.5 | 20 °C |
| **Bulk density** | 50 lb/ft³ (800 kg/m³) | |
| **Relative density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | > 200 °C / > 392 °F | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **log Pow** | No information available | |

**Explosive properties** Suspended dust may present a dust explosion hazard
**Oxidizing properties** None known.

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |
| **Density** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

Dust may form explosive mixture in air.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Take precautionary measures against static charges. Avoid dust formation. Heat, flames and sparks. Protect from moisture.

**10.5 Incompatible materials**

Strong oxidizing agents.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological Information

**11.1 Information on toxicological effects**

**Acute toxicity**

**Inhalation** Inhalation of dust in high concentration may cause irritation of respiratory system.

**Eye contact** Dust may cause mechanical irritation.

**Skin contact** Prolonged contact may cause redness and irritation.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Glyoxal | = 200 mg/kg ( Rat ) | = 12700 mg/kg ( Rabbit ) | = 2410 mg/m³, 3-4 hrs |

**Sensitization** EUH208 - Contains ( Glyoxal ). May produce an allergic reaction.

**Mutagenic effects** Contains an known or suspected mutagen.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of exposure** Skin contact.

**Routes of entry** Inhalation.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Glyoxal | = 215 mg/L LC50 Pimephales | <= 348.59 mg/L EC50 | = 404 mg/L EC50 Daphnia magna |

| | | | |
|---|---|---|---|
| | promelas 96 h 460 - 680 mg/L LC50 Leuciscus idus 96 h | Pseudokirchneriella subcapitata 96 h > 500 mg/L EC50 Desmodesmus subspicatus 96 h > 500 mg/L EC50 Desmodesmus subspicatus 72 h | 48 h |

### 12.2 Persistence and degradability

The product contains substances which are not expected to be biodegradable. See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Glyoxal | Readily biodegradable |

### 12.3 Bioaccumulative potential

Does not bioaccumulate. See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Glyoxal | Not likely to bioaccumulate - Bioconcentration factor (BCF) 2.155 |

### 12.4 Mobility

**Mobility**
Soluble in water. See component information below.

| Chemical Name | Mobility |
|---|---|
| Glyoxal | Soluble in water |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| Glyoxal | Not expected to adsorb on soil |

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

### 12.6 Other adverse effects.

None known.

### 12.7 Other information

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

**New Zealand Hazard Classification** Not classified

**HSNO approval no.** Not required.

**Group number** Not required.

**National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].**

**National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].**

**National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].**

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 09-Jul-2018 |
| **Revision date** | 16-Nov-2018 |
| **Version** | 12 |
| **This SDS has been revised in the following section(s)** | 2, 6, No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 0 |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | E |

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**SDS no.** 141381
**Version** 3
**Revision date** 26-Nov-2018
**Supersedes Date:** 28-Sep-2017

# Safety Data Sheet
## POLYPAC* (All Grades)

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** POLYPAC* (All Grades)
**Product code** 141381

**Synonyms** POLYPAC* ELV, R, UL & POLYPAC* SUPREME R, UL

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Fluid loss reducer. Viscosifier.

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
M-I Australia Pty Ltd
ABN: 67 009 214 162
Level 5
256 St. George Tce
Perth
WA 6000
T = +61 08 9440 2900
F = +61 08 9322 3080
+47 51577424

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

-

**Contains**
Polyanionic cellulose

### 2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria
Suspended dust may present a dust explosion hazard

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

### 3.1 Substances

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Polyanionic cellulose | Listed | Proprietary | 60-100 |

### 3.2 Mixtures

Not applicable

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** — If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** — Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** — Wash skin thoroughly with soap and water. Get medical attention if irritation persists.

**Eye Contact** — Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

### 4.2. Most important symptoms and effects, both acute and delayed

**General advice** — The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

| | |
|---|---|
| **Inhalation** | Please see Section 11. Toxicological Information for further information. |
| **Ingestion** | Please see Section 11. Toxicological Information for further information. |
| **Skin contact** | Please see Section 11. Toxicological Information for further information. |
| **Eye contact** | Please see Section 11. Toxicological Information for further information. |

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing agent suitable for type of surrounding fire.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
Dust may form explosive mixture in air.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx), Sodium oxides.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to applicable federal, state and local regulations.

**Environmental exposure controls**
Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**

Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**
Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Take precautionary measures against static discharges. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Keep away from heat and sources of ignition.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. Do not eat, drink or smoke when using this product Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits. Take precautionary measures against static discharges.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Suspended dust may present a dust explosion hazard Avoid dust formation Protect from moisture Strong oxidizing agents

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** NUI = Nuisance dust, TWA 4mg/m$^3$ Respirable Dust, 10mg/m$^3$ Total Dust. No biological limit allocated

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Polyanionic cellulose | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Polyanionic cellulose | Not determined | Not determined | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Polyanionic cellulose | 10 mg/m$^3$ MAC | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Polyanionic cellulose | Not determined | Not determined | 10 mg/m$^3$ MAC |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Polyanionic cellulose | Not determined | Not determined | Not determined |

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard

present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Use eye protection according to EN 166, designed to protect against powders and dusts Safety glasses with side-shields Tightly fitting safety goggles |
| **Hand protection** | Wear gloves according to EN 374 to protect against skin effects from powders Use protective gloves made of: Nitrile Neoprene Frequent change is advisable |
| **Respiratory protection** | No personal respiratory protective equipment normally required In case of insufficient ventilation wear suitable respiratory equipment Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Solid |
| **Appearance** | Granules Powder |
| **Odor** | Odorless |
| **Color** | White |
| **Odor threshold** | Not applicable |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | Not applicable | |
| **pH @ dilution** | 6.5 - 8 | @ 1% solution |
| **Melting / freezing point** | No information available | |
| **Boiling point/range** | No information available | |
| **Flash point** | No information available | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability (solid, gas)** | Not applicable | |
| **Flammability Limit in Air** | | |
| **Upper flammability limit** | Not applicable | |
| **Lower flammability limit** | Not applicable | |
| **Vapor pressure** | No information available | |
| **Vapor density** | No information available | |
| **Specific gravity** | 1.5 - 1.6 | @ 25 °C |
| **Bulk density** | 400 - 800 kg/m³ | |

| | |
|---|---|
| **Relative density** | No information available |
| **Water solubility** | Soluble in water |
| **Solubility in other solvents** | No information available |
| **Autoignition temperature** | No information available |
| **Decomposition temperature** | > 230°C / 446°F |
| **Kinematic viscosity** | No information available |
| **Dynamic viscosity** | No information available |
| **log Pow** | Not determined |

| | |
|---|---|
| **Explosive properties** | Suspended dust may present a dust explosion hazard |
| **Oxidizing properties** | None known. |

### 9.2 Other information

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |
| **Density** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

Dust may form explosive mixture in air.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Take precautionary measures against static charges. Avoid dust formation. Protect from moisture.

### 10.5 Incompatible materials

Strong oxidizing agents.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

**Acute toxicity**

| | |
|---|---|
| **Inhalation** | Inhalation of dust in high concentration may cause irritation of respiratory system. |
| **Eye contact** | Dust may cause mechanical irritation. |
| **Skin contact** | Prolonged contact may cause redness and irritation. |

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Polyanionic cellulose | = 27000 mg/kg ( Rat ) | > 2 g/kg ( Rabbit ) | > 5800 mg/m³ ( Rat ) 4 h |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of exposure** Inhalation.

**Routes of entry** Inhalation.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Listed on PLONOR list of OSPAR

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Polyanionic cellulose | No information available | No information available | No information available |

### 12.2 Persistence and degradability

Product is biodegradable.

### 12.3 Bioaccumulative potential

Does not bioaccumulate.

### 12.4 Mobility

**Mobility**
Soluble in water.

**Mobility in soil**
No information available.

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

### 12.6 Other adverse effects.

None known.

### 12.7 Other information

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. |
| **Contaminated packaging** | Empty containers should be taken for local recycling, recovery or waste disposal. |

## 14. Transport information

### 14.1. UN number

Not regulated

### 14.2. UN proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

### 14.3 Hazard class(es)

**ADR/RID/ADN/ADG Hazard class** Not regulated

| | |
|---|---|
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

| | |
|---|---|
| **New Zealand Hazard Classification** | Not classified |
| **HSNO approval no.** | Not required. |
| **Group number** | Not required. |

**National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].**

**National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].**

**National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].**

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |

| | |
|---|---|
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 28-Sep-2017 |
| **Revision date** | 26-Nov-2018 |
| **Version** | 3 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

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**SDS no.** PID17730
**Version** 3
**Revision date** 24-Feb-2021
**Supersedes Date:** 25-Oct-2016

# Safety Data Sheet
## PLATINUM ROD EASE*

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** PLATINUM ROD EASE*
**Product code** PID17730
**Country Limitations** This SDS is not for use in the European Union (EU).

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Lubricant

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
M-I Australia Pty Ltd
ABN: 67 009 214 162
Level 5
256 St. George Tce
Perth
WA 6000
T = +61 08 9440 2900
F = +61 08 9322 3080
+47 51577424

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**Contains** No hazardous components

### 2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

No classified ingredients, or those having occupational exposure limits, present above the level of disclosure.

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** — If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** — Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** — Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.

**Eye Contact** — Remove contact lenses, if worn. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

### 4.2. Most important symptoms and effects, both acute and delayed

**General advice** — The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** — Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
Do not use a solid water stream as it may scatter and spread fire.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
Heating of containers may cause pressure rise, with risk of bursting.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx), Sulphur oxides.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Use personal protective equipment. See also section 8. Material becomes slippery when wet. Use caution if wet.

### 6.2 Environmental precautions

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to applicable federal, state and local regulations.

**Environmental exposure controls**
Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Take precautionary measures against static discharges. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use. Material becomes slippery when wet. Use caution if wet.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not eat, drink, smoke, sniff Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. Take precautionary measures against static discharges. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from open flames, hot surfaces and sources of ignition Do not freeze Avoid contact with: Strong oxidizing agents Strong acids Strong bases |
| **Storage class** | Chemical storage. |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

| | |
|---|---|
| **Exposure limits** | The product does not contain any hazardous materials with occupational exposure limits established. |

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Use eye protection according to EN 166, designed to protect against liquid splashes Tightly |

| | |
|---|---|
| | fitting safety goggles Safety glasses with side-shields |
| **Hand protection** | Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Nitrile Neoprene Be aware that liquid may penetrate the gloves. Frequent change is advisable. |
| **Respiratory protection** | In case of insufficient ventilation wear suitable respiratory equipment Respirator with a vapor filter (EN 141) Use respirator with organic vapor protection (A, brown) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Opaque |
| **Odor** | Mild |
| **Color** | Dark brown |
| **Odor threshold** | Not applicable |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | No information available | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | No information available | |
| **Boiling point/range** | No information available | |
| **Flash point** | > 121 °C / > 250 °F | PMCC |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability (solid, gas)** | Not applicable | |
| **Flammability Limit in Air** | | |
| **Upper flammability limit** | Not applicable | |
| **Lower flammability limit** | Not applicable | |
| **Vapor pressure** | No information available | |
| **Vapor density** | No information available | |
| **Specific gravity** | 0.88 - 0.90 | |
| **Bulk density** | No information available | |
| **Relative density** | No information available | |
| **Water solubility** | Dispersible | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **log Pow** | No information available | |

| | |
|---|---|
| **Explosive properties** | No information available |
| **Oxidizing properties** | None known. |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |
| **Density** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Keep away from open flames, hot surfaces and sources of ignition. Do not freeze. Take precautionary measures against static charges.

**10.5 Incompatible materials**

Strong oxidizing agents. Strong acids. Strong bases.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological Information

**11.1 Information on toxicological effects**

**Acute toxicity**

| | |
|---|---|
| **Inhalation** | Inhalation of vapors in high concentration may cause irritation of respiratory system. |
| **Eye contact** | May cause slight irritation. |
| **Skin contact** | Prolonged contact may cause redness and irritation. |
| **Ingestion** | Ingestion may cause stomach discomfort. |
| **Unknown acute toxicity** | Not applicable. |

| | |
|---|---|
| **Sensitization** | This product does not contain any components suspected to be sensitizing. |
| **Mutagenic effects** | This product does not contain any known or suspected mutagens. |
| **Carcinogenicity** | This product does not contain any known or suspected carcinogens. |
| **Reproductive toxicity** | This product does not contain any known or suspected reproductive hazards. |
| **Routes of Exposure** | None known. |
| **Routes of entry** | No route of entry noted. |
| **Specific target organ toxicity - Single exposure** | Not classified |
| **Specific target organ toxicity - Repeated exposure** | Not classified. |
| **Aspiration hazard** | Not applicable. |
| **Other information** | Key literature references and sources for data. See Section 16 for more information. |

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

No product level data available.

### 12.3 Bioaccumulative potential

No product level data available.

### 12.4 Mobility

**Mobility**
Dispersible in water.

**Mobility in soil**
No information available.

**12.5 Results of PBT and vPvB assessment**

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

**12.7 Other information**
Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. |
| **Contaminated packaging** | Empty containers should be taken for local recycling, recovery or waste disposal. |

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

| | |
|---|---|
| **New Zealand Hazard Classification** | Not classified |
| **HSNO approval no.** | Not required |
| **Group number** | Not required |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Does not comply |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

This SDS is not for use in the European Union (EU).

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 25-Oct-2016 |
| **Revision date** | 24-Feb-2021 |
| **Version** | 3 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. Updated according to GHS/CLP. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

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**SDS no.** PID857
**Version** 6
**Revision date** 09-Nov-2018
**Supersedes Date:** 14-Nov-2017

# Safety Data Sheet
## KLA-GARD*

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** KLA-GARD*
**Product code** PID857

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Shale control agent.

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
M-I Australia Pty Ltd
ABN: 67 009 214 162
Level 5
256 St. George Tce
Perth
WA 6000
T = +61 08 9440 2900
F = +61 08 9322 3080
+47 51577424

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**Contains** No hazardous components

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria
Thermal decomposition can lead to release of irritating gases and vapors

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

No classified ingredients, or those having occupational exposure limits, present above the level of disclosure.

## 4. First Aid Measures

**4.1 First aid measures**

| | |
|---|---|
| **Inhalation** | If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult. |
| **Ingestion** | Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur. |
| **Skin contact** | Wash skin thoroughly with soap and water. Get medical attention if irritation persists. |
| **Eye Contact** | Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues. |

**4.2. Most important symptoms and effects, both acute and delayed**

| | |
|---|---|
| **General advice** | The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible. |
| **Symptoms** | |
| **Inhalation** | Please see Section 11. Toxicological Information for further information. |
| **Ingestion** | Please see Section 11. Toxicological Information for further information. |

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water Fog, Alcohol Foam, $CO_2$, Dry Chemical.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx), Nitrogen oxides (NOx), Ammonia.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil. Refer to applicable federal, state and local regulations.

**Environmental exposure controls**
Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use. Ammonia or amines may be released when this component is heated or exposed to high pH.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. Keep airborne concentrations below exposure limits. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Avoid heat, flames and other sources of ignition. Avoid contact with: Oxidizing agents Acids Bases |
| **Storage class** | Chemical storage. |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

| | |
|---|---|
| **Exposure limits** | Contains no substances with occupational exposure limit values No biological limit allocated |

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Use eye protection according to EN 166, designed to protect against liquid splashes Tightly fitting safety goggles Safety glasses with side-shields |
| **Hand protection** | Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Repeated or prolonged contact Impervious gloves made of: Nitrile Neoprene<br>Break through time >480 minutes<br>Glove thickness >=0.4 mm<br>Be aware that liquid may penetrate the gloves. Frequent change is advisable. |
| **Respiratory protection** | No personal respiratory protective equipment normally required In case of insufficient |

| | |
|---|---|
| | ventilation wear suitable respiratory equipment Respirator with combination filter for vapour/particulate (EN 141) Chemical respirator with ammonia and amines cartridge (K/P2, green filter). At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Local authorities should be advised if significant spillages cannot be contained See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | No information available |
| **Odor** | Amine |
| **Color** | Clear - Blue |
| **Odor threshold** | Not applicable |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | No information available | |
| **pH @ dilution** | 6.5 - 8.5 | (1% solution) |
| **Melting / freezing point** | No information available | |
| **Boiling point/range** | 125 °C / 257 °F | |
| **Flash point** | > 99 °C / > 210 °F | PMCC |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability (solid, gas)** | Not applicable | |
| **Flammability Limit in Air** | | |
| **Upper flammability limit** | Not applicable | |
| **Lower flammability limit** | Not applicable | |
| **Vapor pressure** | No information available | |
| **Vapor density** | No information available | |
| **Specific gravity** | 1.1 sg | |
| **Bulk density** | No information available | |
| **Relative density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **log Pow** | No information available | |

| | |
|---|---|
| **Explosive properties** | Not applicable |
| **Oxidizing properties** | None known. |

### 9.2 Other information

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |
| **Density** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid heat, flames and other sources of ignition. Ammonia or amines may be released when this component is heated or exposed to high pH.

### 10.5 Incompatible materials

Oxidizing agents. Acids. Bases.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

**Acute toxicity**

| | |
|---|---|
| **Inhalation** | Inhalation of vapors in high concentration may cause irritation of respiratory system. |
| **Eye contact** | May cause slight irritation. |
| **Skin contact** | Prolonged contact may cause redness and irritation. |
| **Ingestion** | Ingestion may cause stomach discomfort. |
| **Unknown acute toxicity** | Not applicable. |

| | |
|---|---|
| **Sensitization** | This product does not contain any components suspected to be sensitizing. |

| | |
|---|---|
| **Mutagenic effects** | This product does not contain any known or suspected mutagens. |
| **Carcinogenicity** | This product does not contain any known or suspected carcinogens. |
| **Reproductive toxicity** | This product does not contain any known or suspected reproductive hazards. |
| **Routes of exposure** | Inhalation. |
| **Routes of entry** | Inhalation. |
| **Specific target organ toxicity - Single exposure** | Not classified |
| **Specific target organ toxicity - Repeated exposure** | Not classified. |
| **Aspiration hazard** | Not applicable. |
| **Other information** | Key literature references and sources for data. See Section 16 for more information. |

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

Readily biodegradable. (ECHA data) (PRODUCT).

### 12.3 Bioaccumulative potential

Bioaccumulation is unlikely. (ECHA data) (PRODUCT).

### 12.4 Mobility

**Mobility**
Soluble in water.

**Mobility in soil**
No information available.

**12.5 Results of PBT and vPvB assessment**

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

**12.7 Other information**
Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. |
| **Contaminated packaging** | Empty containers should be taken for local recycling, recovery or waste disposal. |

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

**New Zealand Hazard Classification** Not classified

**HSNO approval no.** Not required.

**Group number** Not required.

**National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].**

**National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].**

**National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].**

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

## 16. Other Information

**Prepared by** Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse

**Supersedes Date:** 14-Nov-2017

**Revision date** 09-Nov-2018

| | |
|---|---|
| **Version** | 6 |
| **This SDS has been revised in the following section(s)** | 2, 6, 16 No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

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**SDS no.** PID12240
**Version** 6
**Revision date** 23-Nov-2018
**Supersedes Date:** 27-Oct-2016

# Safety Data Sheet
RINGFREE*

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** RINGFREE*
**Product code** PID12240

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Drilling fluid additive. Thinner.

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
M-I Australia Pty Ltd
ABN: 67 009 214 162
Level 5
256 St. George Tce
Perth
WA 6000
T = +61 08 9440 2900
F = +61 08 9322 3080
+47 51577424

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

-

**Contains**
Polymer

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria
Thermal decomposition can lead to release of irritating gases and vapors

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Polymer | Listed | Proprietary | 30-60 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification.

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** — If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** — Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** — Wash skin thoroughly with soap and water. Get medical attention if irritation persists.

**Eye Contact** — Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** — The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water Fog, Alcohol Foam, $CO_2$, Dry Chemical.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx), Nitrogen oxides (NOx).

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8. If spilled, take caution, as material can cause surfaces to become very slippery.

### 6.2 Environmental precautions

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to applicable federal, state and local regulations.

**Environmental exposure controls**
Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use. If spilled, take caution, as material can cause surfaces to become very slippery.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from direct sunlight. Protect from freezing

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** No biological limit allocated

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Polymer | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Polymer | Not determined | Not determined | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Polymer | Not determined | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Polymer | Not determined | Not determined | Not determined |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Polymer | Not determined | Not determined | Not determined |

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical

hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Local exhaust ventilation

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Use eye protection according to EN 166, designed to protect against liquid splashes Safety glasses with side-shields Tightly fitting safety goggles |
| **Hand protection** | Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Nitrile Neoprene<br>Break through time >480 minutes<br>Glove thickness >=0.4 mm<br>Be aware that liquid may penetrate the gloves. Frequent change is advisable. |
| **Respiratory protection** | No personal respiratory protective equipment normally required In case of insufficient ventilation wear suitable respiratory equipment Respirator with a vapor filter (EN 141) Use respirator with organic vapor protection (A, brown) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | No information available |
| **Odor** | Slight |
| **Color** | Pale Yellow |
| **Odor threshold** | Not applicable |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | 7.0 - 7.5 | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | < 0 °C / < 32 °F | |
| **Boiling point/range** | 100 °C / 212 °F | |
| **Flash point** | Does not flash | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability (solid, gas)** | Not applicable | |
| **Flammability Limit in Air** | | |
| **Upper flammability limit** | Not applicable | |
| **Lower flammability limit** | Not applicable | |
| **Vapor pressure** | 2.3 kPa | @ 20 °C |
| **Vapor density** | ~ 0.8 g/l | |

| | | |
|---|---|---|
| **Specific gravity** | 1.3 | @ 25 °C |
| **Bulk density** | 10.8 lb/gal | |
| **Relative density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | > 100°C / 212°F | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | 100-400 cP | @ 77 °C |
| **log Pow** | No information available | |

| | |
|---|---|
| **Explosive properties** | Not applicable |
| **Oxidizing properties** | None known. |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |
| **Density** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Keep away from direct sunlight. Protect from freezing.

**10.5 Incompatible materials**

No materials to be especially mentioned.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological Information

**11.1 Information on toxicological effects**

**Acute toxicity**

| | |
|---|---|
| **Inhalation** | Inhalation of vapors in high concentration may cause irritation of respiratory system. |
| **Eye contact** | May cause slight irritation. |

**Skin contact** Prolonged contact may cause redness and irritation.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Polymer | > 40 g/kg ( Rat ) | No data available | No data available |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of exposure** None known.

**Routes of entry** No route of entry noted.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

**12.1 Toxicity**

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
This product is not considered toxic to algae. LC50 / 72 hrs: > 100 mg/l (estimated).

**Toxicity to fish**
This product is not considered toxic to fish. LC50 / 96 hrs: > 100 mg/l (estimated).

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates. EC50 / 48 hrs: > 100 mg/l (estimated).

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Polymer | No information available | No information available | No information available |

### 12.2 Persistence and degradability

Not readily biodegradable.

### 12.3 Bioaccumulative potential

Does not bioaccumulate.

**log Pow**
~ 0

### 12.4 Mobility

**Mobility**
Soluble in water.

**Mobility in soil**
No information available.

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

### 12.6 Other adverse effects.

None known.

### 12.7 Other information

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. |
| **Contaminated packaging** | Empty containers should be taken for local recycling, recovery or waste disposal. |

## 14. Transport information

### 14.1. UN number

Not regulated

### 14.2. UN proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

| | |
|---|---|
| **New Zealand Hazard Classification** | Not classified |
| **HSNO approval no.** | Not required. |
| **Group number** | Not required. |

**National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].**

**National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].**

**National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].**

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |

| | |
|---|---|
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 27-Oct-2016 |
| **Revision date** | 23-Nov-2018 |
| **Version** | 6 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

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# SAFETY DATA SHEET

NUOSEPT 78

## Section 1. Identification

**Product identifier** : NUOSEPT 78

**Product code** : 83256

**Chemical identity** : 2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol

**Other means of identification** : Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine

**Product type** : Liquid.

**Material uses** : Preservative.

**Supplier's details** : IMCD AUSTRALIA LIMITED
1st Floor 372 Wellington Rd.
Mulgrave VIC 3170
Phone: (03) 8544 3118
Fax: (03) 8544 3218

**Manufacturer** : Troy Siam Company Limited
616/1 Moo. 9 Kabinburi Industrial Zone,
Kabinburi-Korat Road, T, Nongki,
A. Kabinburi, Prachinburi 25110
Thailand
Phone: +66-37-204-243/250
Fax: +66-37-204 268

**Emergency telephone number (with hours of operation)** : CHEMTREC - Tel: +1-703-741-5970 (24/7)

## Section 2. Hazard(s) identification

**Classification of the substance or mixture** : ACUTE TOXICITY (oral) - Category 4
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1

**GHS label elements**

**Hazard pictograms** :

**Signal word** : **WARNING**

**Hazard statements** : **Harmful if swallowed.**
**Causes serious eye irritation.**
**May cause an allergic skin reaction.**

**Precautionary statements**

**Prevention** : Wear protective gloves. Wear eye or face protection: Recommended: chemical splash goggles and/or face shield.. Avoid breathing vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

## Section 2. Hazard(s) identification

**Response** : IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

**Storage** : Not applicable.

**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Supplemental label elements** : Not applicable.

**Other hazards which do not result in classification** : None known.

## Section 3. Composition and ingredient information

**Substance/mixture** : Substance

**Chemical identity** : 2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol

**Other means of identification** : Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine

### CAS number/other identifiers

**CAS number** : Not available.

**EC number** : Not available.

**Product code** : 83256

| Ingredient name | % (w/w) | CAS number |
|---|---|---|
| 2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol | 78 | 4719-04-4 |
| 2-aminoethanol | 1-3 | 141-43-5 |

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

### Description of necessary first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

# Section 4. First aid measures

**Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## Most important symptoms/effects, acute and delayed

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : May cause an allergic skin reaction.

**Ingestion** : Harmful if swallowed.

### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** : No specific data.

**Skin contact** : Adverse symptoms may include the following:
irritation
redness

**Ingestion** : No specific data.

## Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**See toxicological information (Section 11)**

# Section 5. Fire-fighting measures

## Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

## Section 5. Fire-fighting measures

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**Remark** : Excessive heat >147°C (>297°F) will result in decomposition to formaldehyde.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

# Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : Store between the following temperatures: -5 to 30°C (23 to 86°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

# Section 8. Exposure controls and personal protection

## Control parameters

### Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| 2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol<br><br>2-aminoethanol | **DFG MAC-values list (Germany, 7/2018).**<br>**Skin sensitizer.**<br>**Safe Work Australia (Australia, 4/2018).**<br>STEL: 15 mg/m³ 15 minutes.<br>STEL: 6 ppm 15 minutes.<br>TWA: 7.5 mg/m³ 8 hours.<br>TWA: 3 ppm 8 hours. |

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Recommended: chemical splash goggles and/or face shield.

## Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

## Section 8. Exposure controls and personal protection

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Liquid.

**Color** : Clear. Colorless. Yellowish.

**Odor** : Characteristic. [Slight]

**Odor threshold** : Not available.

**pH** : 9 to 12

**Melting point/freezing point** : Not available.

**Boiling point** : 110.5°C (230.9°F)

**Flash point** : Closed cup: Not applicable.

**Evaporation rate** : Not available.

**Flammability (solid, gas)** : Excessive heat >147°C (>297°F) will result in decomposition to formaldehyde.

**Lower and upper explosive (flammable) limits** : Not available.

**Vapor pressure** : 1.3 to 2.4 kPa (10 to 18 mm Hg) [room temperature]

**Vapor density** : >1 [Air = 1]

**Relative density** : 1.145 to 1.175

**Solubility** : Soluble in the following materials: cold water and hot water.

**Partition coefficient: n-octanol/water** : -1.3

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**Viscosity** : Dynamic (room temperature): 60 to 100 mPa·s (60 to 100 cP)
Kinematic (room temperature): 0.6 to 1 $cm^2/s$ (60 to 100 cSt)

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : No specific data.

**Incompatible materials** : No specific data.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

# Section 11. Toxicological information

## Information on toxicological effects

### Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| NUOSEPT 78 | LD50 Dermal<br>LD50 Oral | Rat<br>Rat - Female | >2000 mg/kg<br>1009 to 3950 mg/kg | -<br>- |

### Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| NUOSEPT 78 | Eyes - Cornea opacity<br>Skin - Mild irritant | Rabbit<br>Rabbit | 59<br>- | -<br>- | 21 days<br>- |

### Sensitization

| Product/ingredient name | Route of exposure | Species | Result |
|---|---|---|---|
| NUOSEPT 78 | skin | Mouse | Sensitizing |

### Mutagenicity

| Product/ingredient name | Test | Experiment | Result |
|---|---|---|---|
| NUOSEPT 78 | - | Experiment: In vivo<br>Subject: Mammalian-Animal | Negative |

### Carcinogenicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Not available. | | | | |

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : May cause an allergic skin reaction.

**Ingestion** : Harmful if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

# Section 11. Toxicological information

**Inhalation** : No specific data.

**Skin contact** : Adverse symptoms may include the following:
irritation
redness

**Ingestion** : No specific data.

## Delayed and immediate effects and also chronic effects from short and long term exposure

### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

## Numerical measures of toxicity

### Acute toxicity estimates

| Route | ATE value |
|---|---|
| Oral | 500 mg/kg |

# Section 12. Ecological information

## Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| NUOSEPT 78 | Acute EC50 10 to 100 mg/l<br>Acute LC50 10 to 100 mg/l | Daphnia<br>Fish | 48 hours<br>96 hours |

## Persistence and degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|---|---|---|---|
| 2-aminoethanol | - | >90 % - Readily - 21 days | - | - |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| NUOSEPT 78 | - | - | Readily |

## Bioaccumulative potential

## Section 12. Ecological information

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| NUOSEPT 78 | -1.3 | - | low |

**Mobility in soil**

**Soil/water partition coefficient ($K_{OC}$)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

| | ADG | ADR/RID | IMDG | IATA/ICAO |
|---|---|---|---|---|
| **UN number** | Not regulated | Not regulated | Not regulated | Not regulated |
| **UN proper shipping name** | - | - | - | - |
| **Transport hazard class(es)** | - | - | - | - |
| **Packing group** | - | - | - | - |
| **Environmental hazards** | No. | No. | No. | No. |
| **Additional information** | - | - | - | - |

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL and the IBC Code** : Not available.

# Section 15. Regulatory information

## Standard Uniform Schedule of Medicine and Poisons

Not regulated

## Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

**Australia inventory (AICS)** : All components are listed or exempted.

## International regulations

### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

### Montreal Protocol

Not listed.

### Stockholm Convention on Persistent Organic Pollutants

Not listed.

### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

## International lists

### National inventory

| | | |
|---|---|---|
| **Canada** | : | All components are listed or exempted. |
| **China** | : | All components are listed or exempted. |
| **Europe** | : | All components are listed or exempted. |
| **Japan** | : | **Japan inventory (ENCS)**: All components are listed or exempted.<br>**Japan inventory (ISHL)**: All components are listed or exempted. |
| **Malaysia** | : | Not determined |
| **New Zealand** | : | All components are listed or exempted. |
| **Philippines** | : | All components are listed or exempted. |
| **Republic of Korea** | : | All components are listed or exempted. |
| **Taiwan** | : | All components are listed or exempted. |
| **United States** | : | All components are listed or exempted. |

# Section 16. Any other relevant information

## History

| | | |
|---|---|---|
| **Date of printing** | : | 7/30/2019 |
| **Date of issue/Date of revision** | : | 7/26/2019 |
| **Date of previous issue** | : | 3/16/2016 |
| **Version** | : | 1.01 |
| **Key to abbreviations** | : | ADG = Australian Dangerous Goods<br>ATE = Acute Toxicity Estimate<br>BCF = Bioconcentration Factor<br>GHS = Globally Harmonized System of Classification and Labelling of Chemicals<br>IATA = International Air Transport Association<br>IBC = Intermediate Bulk Container<br>IMDG = International Maritime Dangerous Goods<br>LogPow = logarithm of the octanol/water partition coefficient<br>MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)<br>NOHSC = National Occupational Health and Safety Commission |

# Section 16. Any other relevant information

SUSMP = Standard Uniform Schedule of Medicine and Poisons
UN = United Nations

## Procedure used to derive the classification

| Classification | Justification |
|---|---|
| Acute Tox. 4, H302<br>Eye Irrit. 2A, H319<br>Skin Sens. 1, H317 | Expert judgment<br>Expert judgment<br>Expert judgment |

**References** : Not available.

**Indicates information that has changed from previously issued version.**

## Notice to reader

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.**
**Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**

5. **SDS – HALLIBURTON**

HALLIBURTON

# SAFETY DATA SHEET

# CEMENT - STANDARD - CLASS A

**Revision Date:** 05-Nov-2018 **Revision Number:** 17

## 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**1.1. Product Identifier**

**Product Name** CEMENT - STANDARD - CLASS A

**Other means of Identification**

**Synonyms** None

**Hazardous Material Number:** HM001887

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Cement

**Uses advised against** No information available

**Supplier's name, address and phone number**

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.
15 Marriott Road, Jandakot, WA 6164
Australia
ACN Number: 009 000 775
Telephone Number: + 61 1 800 686 951
Fax Number: 61 (08) 9455 5300

**E-mail Address** fdunexchem@halliburton.com

**Emergency phone number**

+ 61 1 800 686 951
Global Incident Response Access Code: 334305
Contract Number: 14012

**Australian Poisons Information Centre**
24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

## 2. Hazard Identification

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**Classification of the hazardous chemical**

| | |
|---|---|
| Skin Corrosion/Irritation | Category 2 - H315 |
| Serious Eye Damage/Irritation | Category 1 - H318 |
| Skin Sensitization | Category 1 - H317 |
| Carcinogenicity | Category 1A - H350 |
| Specific Target Organ Toxicity - (Single Exposure) | Category 3 - H335 |
| Specific Target Organ Toxicity - (Repeated Exposure) | Category 2 - H373 |

**Label elements, including precautionary statements**

**Hazard Pictograms**

**Signal Word** DANGER

**Hazard Statements:**
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H350 - May cause cancer by inhalation
H373 - May cause damage to organs through prolonged or repeated exposure if inhaled

**Precautionary Statements**

**Prevention**
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Wear protective gloves/eye protection/face protection
P281 - Use personal protective equipment as required

**Response**
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P362 + P364 - Take off contaminated clothing and wash before reuse
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P312 - Call a POISON CENTER/doctor/physician if you feel unwell
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P314 - Get medical attention/advice if you feel unwell

**Storage**
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up

**Disposal**
P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

**Contains**

| **Substances** | **CAS Number** |
|---|---|
| Portland cement | 65997-15-1 |
| Crystalline silica, quartz | 14808-60-7 |

**Other hazards which do not result in classification**
This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).
This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

## 3. Composition/information on Ingredients

| Substances | CAS Number | PERCENT (w/w) | GHS Classification - Australia |
|---|---|---|---|
| Portland cement | 65997-15-1 | 60 - 100% | Skin Irrit. 2 (H315) |

| | | | |
|---|---|---|---|
| | | | Eye Corr. 1 (H318)<br>Skin Sens. 1 (H317)<br>STOT SE 3 (H335) |
| Crystalline silica, quartz | 14808-60-7 | 1 - 5% | Carc. 1A (H350)<br>STOT RE 1 (H372) |

## 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

**Skin** Wash with soap and water. Get medical attention if irritation persists.

**Ingestion** Under normal conditions, first aid procedures are not required.

**Symptoms caused by exposure**

Causes severe eye irritation which may damage tissue. Causes skin irritation. May cause allergic skin reaction. May cause respiratory irritation. Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

None - does not burn.

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Not applicable

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal.

## 7. Handling and storage

**7.1. Precautions for safe handling**

**Handling Precautions**

Avoid contact with eyes, skin, or clothing. This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep

exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage Information**

Store in a cool, dry location. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Product has a shelf life of 24 months.

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring**

**Exposure Limits**

| Substances | CAS Number | Australia NOHSC | ACGIH TLV-TWA |
|---|---|---|---|
| Portland cement | 65997-15-1 | TWA: 10 mg/m$^3$ | TWA: 1 mg/m$^3$ |
| Crystalline silica, quartz | 14808-60-7 | TWA: 0.1 mg/m$^3$ | TWA: 0.025 mg/m$^3$ |

**Appropriate engineering controls**

**Engineering Controls** Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.

**Personal protective equipment (PPE)**

**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection** Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product.

**Hand Protection** Impervious rubber gloves.

**Skin Protection** Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.

**Eye Protection** Wear safety glasses or goggles to protect against exposure.

**Other Precautions** Eyewash fountains and safety showers must be easily accessible.

**Environmental Exposure Controls** No information available

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

**Physical State:** Solid

**Color** Gray

**Odor:** Odorless

**Odor Threshold:** No information available

| Property<br>Remarks/ - Method | Values |
|---|---|
| **pH:** | 12.4 |
| **Freezing Point / Range** | No data available |
| **Melting Point / Range** | No data available |
| **Pour Point / Range** | No data available |
| **Boiling Point / Range** | No data available |
| **Flash Point** | No data available |
| **Evaporation rate** | No data available |
| **Vapor Pressure** | No data available |
| **Vapor Density** | No data available |
| **Specific Gravity** | 3.15 |
| **Water Solubility** | Insoluble in water |
| **Solubility in other solvents** | No data available |
| **Partition coefficient: n-octanol/water** | No data available |

| | |
|---|---|
| **Autoignition Temperature** | No data available |
| **Decomposition Temperature** | No data available |
| **Viscosity** | No data available |
| **Explosive Properties** | No information available |
| **Oxidizing Properties** | No information available |

**9.2. Other information**

| | |
|---|---|
| **VOC Content (%)** | No data available |

## 10. Stability and Reactivity

**10.1. Reactivity**
Not expected to be reactive.
**10.2. Chemical stability**
Stable
**10.3. Possibility of hazardous reactions**
Will Not Occur
**10.4. Conditions to avoid**
Keep away from any contact with water.
**10.5. Incompatible materials**
Hydrofluoric acid.

**10.6. Hazardous decomposition products**
Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

## 11. Toxicological Information

**Information on routes of exposure**
**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure**
**Most Important Symptoms/Effects**
Causes severe eye irritation which may damage tissue. Causes skin irritation. May cause allergic skin reaction. May cause respiratory irritation. Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

**Toxicology data for the components**

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|---|
| Portland cement | 65997-15-1 | > 2000 mg/kg (Rat) | > 2000 mg/kg | > 1 mg/L (Rat) 4h |
| Crystalline silica, quartz | 14808-60-7 | > 15000 mg/kg (human) | No data available | No data available |

**Immediate, delayed and chronic health effects from exposure**

**Inhalation** Causes moderate respiratory irritation. Inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC, Group 1). There is sufficient evidence in experimental animals for the carcinogenicity of tridymite (IARC, Group 2A).

Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See "Chronic Effects/Carcinogenicity" subsection below).

**Eye Contact** Causes severe eye irritation which may damage tissue.
**Skin Contact** Causes skin irritation. May cause an allergic skin reaction. Can dry skin. May cause alkali burns with confined contact.
**Ingestion** Irritation of the mouth, throat, and stomach.

**Chronic Effects/Carcinogenicity** Silicosis: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis.

Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

Cancer Status: The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2). There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

**Exposure Levels**
No data available

**Interactive effects**
Individuals with respiratory disease, including but not limited to asthma and bronchitis, or subject to eye irritation, should not be exposed to quartz dust.

**Data limitations**
No data available

| Substances | CAS Number | Skin corrosion/irritation |
|---|---|---|
| Portland cement | 65997-15-1 | Irritating to skin. (Rabbit) |
| Crystalline silica, quartz | 14808-60-7 | Non-irritating to the skin |

| Substances | CAS Number | Serious eye damage/irritation |
|---|---|---|
| Portland cement | 65997-15-1 | Corrosive to eyes |
| Crystalline silica, quartz | 14808-60-7 | Non-irritating to the eye No information available |

| Substances | CAS Number | Skin Sensitization |
|---|---|---|
| Portland cement | 65997-15-1 | May cause sensitization by skin contact |
| Crystalline silica, quartz | 14808-60-7 | No information available. |

| Substances | CAS Number | Respiratory Sensitization |
|---|---|---|
| Portland cement | 65997-15-1 | No information available |
| Crystalline silica, quartz | 14808-60-7 | No information available |

| Substances | CAS Number | Mutagenic Effects |
|---|---|---|
| Portland cement | 65997-15-1 | No data of sufficient quality are available. |
| Crystalline silica, quartz | 14808-60-7 | Not regarded as mutagenic. |

| Substances | CAS Number | Carcinogenic Effects |
|---|---|---|
| Portland cement | 65997-15-1 | No data of sufficient quality are available. |
| Crystalline silica, quartz | 14808-60-7 | Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure. |

| Substances | CAS Number | Reproductive toxicity |
|---|---|---|
| Portland cement | 65997-15-1 | No data of sufficient quality are available. |
| Crystalline silica, quartz | 14808-60-7 | No information available |

| Substances | CAS Number | STOT - single exposure |
|---|---|---|
| Portland cement | 65997-15-1 | May cause respiratory irritation. |
| Crystalline silica, quartz | 14808-60-7 | No significant toxicity observed in animal studies at concentration requiring classification. |

| Substances | CAS Number | STOT - repeated exposure |
|---|---|---|
| Portland cement | 65997-15-1 | No data of sufficient quality are available. |
| Crystalline silica, quartz | 14808-60-7 | Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs) |

| Substances | CAS Number | Aspiration hazard |
|---|---|---|
| Portland cement | 65997-15-1 | Not applicable |
| Crystalline silica, quartz | 14808-60-7 | Not applicable |

## 12. Ecological Information

**Ecotoxicity**

**Substance Ecotoxicity Data**

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|---|---|---|---|---|---|
| Portland cement | 65997-15-1 | No information available | No information available | No information available | No information available |
| Crystalline silica, quartz | 14808-60-7 | EC50(72 h)=440 mg/L (Pseudokirchneriella subcapitata) | LL0(96 h)=10000 mg/L (Danio rerio) | No information available | LL50(24 h)>10000 mg/L (Daphnia magna) |

**12.2. Persistence and degradability**

| Substances | CAS Number | Persistence and Degradability |
|---|---|---|
| Portland cement | 65997-15-1 | The methods for determining biodegradability are not applicable to inorganic substances. |
| Crystalline silica, quartz | 14808-60-7 | The methods for determining biodegradability are not applicable to inorganic substances. |

**12.3. Bioaccumulative potential**

| Substances | CAS Number | Bioaccumulation |
|---|---|---|
| Portland cement | 65997-15-1 | No information available |
| Crystalline silica, quartz | 14808-60-7 | No information available |

**12.4. Mobility in soil**

| Substances | CAS Number | Mobility |
|---|---|---|
| Portland cement | 65997-15-1 | No information available |
| Crystalline silica, quartz | 14808-60-7 | No information available |

**12.6. Other adverse effects**

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**

Bury in a licensed landfill according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

## 14. Transport Information

**Transportation Information**

**Australia ADG**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IMDG/IMO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IATA/ICAO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**Special precautions during transport**

None

**HazChem Code**

None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product**

**International Inventories**

| | |
|---|---|
| **Australian AICS Inventory** | All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate. |
| **New Zealand Inventory of Chemicals** | All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate. |
| **US TSCA Inventory** | All components listed on inventory or are exempt. |
| **Canadian Domestic Substances List (DSL)** | All components listed on inventory or are exempt. |

**Poisons Schedule number**

None Allocated

**International Agreements**

| | |
|---|---|
| **Montreal Protocol - Ozone Depleting Substances:** | Does not apply. |
| **Stockholm Convention - Persistent Organic Pollutants:** | Does not apply |
| **Rotterdam Convention - Prior Informed Consent:** | Does not apply. |
| **Basel Convention - Hazardous Waste:** | Does not apply. |

## 16. Other information

**Date of preparation or review**

**Revision Date:** 05-Nov-2018

**Revision Note**

SDS sections updated:

**Full text of H-Statements referred to under sections 2 and 3**
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H350 - May cause cancer by inhalation
H372 - Causes damage to organs through prolonged or repeated exposure if inhaled
H373 - May cause damage to organs through prolonged or repeated exposure if inhaled

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abreviations or acronyms used**
bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NOEC – No Observed Effect Concentration
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
vPvB – very Persistent and very Bioaccumulative
h - hour
$mg/m^3$ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

**Key literature references and sources for data**
www.ChemADVISOR.com/
NZ CCID

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This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**

HALLIBURTON

# SAFETY DATA SHEET

# CEMENT - CLASS G + 35% SSA-1

**Revision Date:** 11-Feb-2021 **Revision Number:** 32

## 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**1.1. Product Identifier**

**Product Name** CEMENT - CLASS G + 35% SSA-1

**Other means of Identification**

**Synonyms** None

**Hazardous Material Number:** HM004641

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Cement

**Uses advised against** No information available

**Supplier's name, address and phone number**

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.
15 Marriott Road, Jandakot, WA 6164
Australia
ACN Number: 009 000 775
Telephone Number: + 61 1 800 686 951
Fax Number: 61 (08) 9455 5300

**E-mail Address** fdunexchem@halliburton.com

**Emergency phone number**

+ 61 1 800 686 951
Global Incident Response Access Code: 334305
Contract Number: 14012

**Australian Poisons Information Centre**
24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

## 2. Hazard Identification

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**Classification of the hazardous chemical**

| | |
|---|---|
| Skin Corrosion/Irritation | Category 2 - H315 |
| Serious Eye Damage/Irritation | Category 1 - H318 |
| Skin Sensitization | Category 1 - H317 |
| Carcinogenicity | Category 1A - H350 |
| Specific Target Organ Toxicity - (Single Exposure) | Category 3 - H335 |
| Specific Target Organ Toxicity - (Repeated Exposure) | Category 1 - H372 |

**Label elements, including precautionary statements**

**Hazard Pictograms**

**Signal Word** DANGER

**Hazard Statements:**
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H350 - May cause cancer by inhalation
H372 - Causes damage to organs through prolonged or repeated exposure

**Precautionary Statements**

**Prevention**
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Wear protective gloves/protective clothing
P281 - Use personal protective equipment as required

**Response**
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P362 + P364 - Take off contaminated clothing and wash before reuse
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P312 - Call a POISON CENTER/doctor/physician if you feel unwell
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P314 - Get medical attention/advice if you feel unwell

**Storage**
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up

**Disposal**
P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

**Contains**

| **Substances** | **CAS Number** |
|---|---|
| Portland cement | 65997-15-1 |
| Crystalline silica, quartz | 14808-60-7 |

**Other hazards which do not result in classification**
This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

## 3. Composition/information on Ingredients

| Substances | CAS Number | PERCENT (w/w) | GHS Classification - Australia |
|---|---|---|---|
| Portland cement | 65997-15-1 | 60 - 100% | Skin Irrit. 2 (H315)<br>Eye Corr. 1 (H318)<br>Skin Sens. 1 (H317)<br>STOT SE 3 (H335) |
| Crystalline silica, quartz | 14808-60-7 | 30 - 60% | Carc. 1A (H350)<br>STOT RE 1 (H372) |

## 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention.

**Skin** In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention.

**Ingestion** Under normal conditions, first aid procedures are not required.

**Symptoms caused by exposure**

Causes severe eye irritation which may damage tissue. Causes skin irritation. May cause allergic skin reaction. May cause respiratory irritation. Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

None - does not burn.

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Not applicable

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal.

## 7. Handling and storage

### 7.1. Precautions for safe handling

**Handling Precautions**

Avoid contact with eyes, skin, or clothing. This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage Information**

Store in a cool, dry location. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Product has a shelf life of 24 months.

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

### Control parameters - exposure standards, biological monitoring

**Exposure Limits**

| Substances | CAS Number | Australia NOHSC | ACGIH TLV-TWA |
|---|---|---|---|
| Portland cement | 65997-15-1 | TWA: 10 mg/m$^3$ | TWA: 1 mg/m$^3$ |
| Crystalline silica, quartz | 14808-60-7 | TWA: 0.1 mg/m$^3$ | TWA: 0.025 mg/m$^3$ |

### Appropriate engineering controls

**Engineering Controls** Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.

### Personal protective equipment (PPE)

**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection** Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product.

**Hand Protection** Normal work gloves.

**Skin Protection** Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.

**Eye Protection** Wear safety glasses or goggles to protect against exposure: Dust proof goggles.

**Other Precautions** Eyewash fountains and safety showers must be easily accessible.

**Environmental Exposure Controls** No information available

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

**Physical State:** Solid **Color** Gray

**Odor:** Odorless **Odor Threshold:** No information available

| Property | Values | Remarks/ - Method |
|---|---|---|
| **pH:** | 12.4 | |
| **Freezing Point / Range** | No data available | |
| **Melting Point / Range** | No data available | |
| **Pour Point / Range** | No data available | |
| **Boiling Point / Range** | No data available | |
| **Flash Point** | No data available | |
| **Evaporation rate** | No data available | |
| **Vapor Pressure** | No data available | |

| | |
|---|---|
| **Vapor Density** | No data available |
| **Specific Gravity** | 2.97 g/cm3 (20 °C/68 °F) |
| **Water Solubility** | Insoluble in water |
| **Solubility in other solvents** | No data available |
| **Partition coefficient: n-octanol/water** | No data available |
| **Autoignition Temperature** | No data available |
| **Decomposition Temperature** | No data available |
| **Viscosity** | No data available |
| **Explosive Properties** | No information available |
| **Oxidizing Properties** | No information available |

**9.2. Other information**

| | |
|---|---|
| **VOC Content (%)** | No data available |

## 10. Stability and Reactivity

**10.1. Reactivity**
Not expected to be reactive.
**10.2. Chemical stability**
Stable
**10.3. Possibility of hazardous reactions**
Will Not Occur
**10.4. Conditions to avoid**
Keep away from any contact with water.
**10.5. Incompatible materials**
Hydrofluoric acid.

**10.6. Hazardous decomposition products**
Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

## 11. Toxicological Information

**Information on routes of exposure**
**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure**
**Most Important Symptoms/Effects**
Causes severe eye irritation which may damage tissue. Causes skin irritation. May cause allergic skin reaction. May cause respiratory irritation. Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

**Toxicology data for the components**

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|---|
| Portland cement | 65997-15-1 | > 2000 mg/kg (Rat) | > 2000 mg/kg | > 1 mg/L (Rat) 4h |
| Crystalline silica, quartz | 14808-60-7 | > 15000 mg/kg (human) | No data available | No data available |

**Immediate, delayed and chronic health effects from exposure**

**Inhalation** Causes moderate respiratory irritation. Inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC, Group 1). There is sufficient evidence in experimental animals for the carcinogenicity of tridymite (IARC, Group 2A).

Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See "Chronic Effects/Carcinogenicity" subsection below).

**Eye Contact** Causes severe eye irritation. Will damage tissue.
**Skin Contact** Causes skin irritation. Can dry skin. May cause alkali burns with confined contact. May

cause an allergic skin reaction.

**Ingestion** May cause abdominal pain, vomiting, nausea, and diarrhea.

**Chronic Effects/Carcinogenicity** Silicosis: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

Cancer Status: The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2).

**Exposure Levels**
No data available

**Interactive effects**
Individuals with respiratory disease, including but not limited to asthma and bronchitis, or subject to eye irritation, should not be exposed to quartz dust.

**Data limitations**
No data available

| Substances | CAS Number | Skin corrosion/irritation |
|---|---|---|
| Portland cement | 65997-15-1 | Irritating to skin. (Rabbit) |
| Crystalline silica, quartz | 14808-60-7 | Non-irritating to the skin |

| Substances | CAS Number | Serious eye damage/irritation |
|---|---|---|
| Portland cement | 65997-15-1 | Corrosive to eyes |
| Crystalline silica, quartz | 14808-60-7 | Non-irritating to the eye No information available |

| Substances | CAS Number | Skin Sensitization |
|---|---|---|
| Portland cement | 65997-15-1 | May cause sensitization by skin contact |
| Crystalline silica, quartz | 14808-60-7 | No information available. |

| Substances | CAS Number | Respiratory Sensitization |
|---|---|---|
| Portland cement | 65997-15-1 | No information available |
| Crystalline silica, quartz | 14808-60-7 | No information available |

| Substances | CAS Number | Mutagenic Effects |
|---|---|---|
| Portland cement | 65997-15-1 | No data of sufficient quality are available. |
| Crystalline silica, quartz | 14808-60-7 | Not regarded as mutagenic. |

| Substances | CAS Number | Carcinogenic Effects |
|---|---|---|
| Portland cement | 65997-15-1 | No data of sufficient quality are available. |
| Crystalline silica, quartz | 14808-60-7 | Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure. |

| Substances | CAS Number | Reproductive toxicity |
|---|---|---|
| Portland cement | 65997-15-1 | No data of sufficient quality are available. |
| Crystalline silica, quartz | 14808-60-7 | No information available |

| Substances | CAS Number | STOT - single exposure |
|---|---|---|

| | | |
|---|---|---|
| Portland cement | 65997-15-1 | May cause respiratory irritation. |
| Crystalline silica, quartz | 14808-60-7 | No significant toxicity observed in animal studies at concentration requiring classification. |

| Substances | CAS Number | STOT - repeated exposure |
|---|---|---|
| Portland cement | 65997-15-1 | No data of sufficient quality are available. |
| Crystalline silica, quartz | 14808-60-7 | Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs) |

| Substances | CAS Number | Aspiration hazard |
|---|---|---|
| Portland cement | 65997-15-1 | Not applicable |
| Crystalline silica, quartz | 14808-60-7 | Not applicable |

## 12. Ecological Information

**Ecotoxicity**

**Substance Ecotoxicity Data**

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|---|---|---|---|---|---|
| Portland cement | 65997-15-1 | No information available | No information available | No information available | No information available |
| Crystalline silica, quartz | 14808-60-7 | EC50(72 h)=440 mg/L (Pseudokirchneriella subcapitata) | LL0(96 h)=10000 mg/L (Danio rerio) | No information available | LL50(24 h)>10000 mg/L (Daphnia magna) |

**12.2. Persistence and degradability**

| Substances | CAS Number | Persistence and Degradability |
|---|---|---|
| Portland cement | 65997-15-1 | The methods for determining biodegradability are not applicable to inorganic substances. |
| Crystalline silica, quartz | 14808-60-7 | The methods for determining biodegradability are not applicable to inorganic substances. |

**12.3. Bioaccumulative potential**

| Substances | CAS Number | Bioaccumulation |
|---|---|---|
| Portland cement | 65997-15-1 | No information available |
| Crystalline silica, quartz | 14808-60-7 | No information available |

**12.4. Mobility in soil**

| Substances | CAS Number | Mobility |
|---|---|---|
| Portland cement | 65997-15-1 | No information available |
| Crystalline silica, quartz | 14808-60-7 | No information available |

**12.6. Other adverse effects**

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**

Follow all applicable community, national or regional regulations regarding waste management methods.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

## 14. Transport Information

**Transportation Information**

**Australia ADG**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IMDG/IMO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IATA/ICAO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product**

**International Inventories**

| | |
|---|---|
| **Australian AICS Inventory** | All components are listed on the AIIC or are subject to a relevant exemption, permit, or assessment certificate. |
| **New Zealand Inventory of Chemicals** | All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate. |
| **US TSCA Inventory** | All components listed on inventory or are exempt. |
| **Canadian Domestic Substances List (DSL)** | All components listed on inventory or are exempt. |

**Poisons Schedule number**

None Allocated

**International Agreements**

| | |
|---|---|
| **Montreal Protocol - Ozone Depleting Substances:** | Does not apply. |
| **Stockholm Convention - Persistent Organic Pollutants:** | Does not apply |
| **Rotterdam Convention - Prior Informed Consent:** | Does not apply. |
| **Basel Convention - Hazardous Waste:** | Does not apply. |

## 16. Other information

**Date of preparation or review**

**Revision Date:** 11-Feb-2021

**Revision Note**
SDS sections updated:
2

**Full text of H-Statements referred to under sections 2 and 3**
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H350 - May cause cancer by inhalation
H372 - Causes damage to organs through prolonged or repeated exposure if inhaled

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abreviations or acronyms used**
bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NOEC – No Observed Effect Concentration
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
vPvB – very Persistent and very Bioaccumulative
h - hour
$mg/m^3$ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

**Key literature references and sources for data**
www.ChemADVISOR.com/

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**End of Safety Data Sheet**

HALLIBURTON

# SAFETY DATA SHEET

# ECONOLITE LIQUID

**Revision Date:** 03-Dec-2020 **Revision Number:** 103

## 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**1.1. Product Identifier**

**Product Name** ECONOLITE LIQUID

**Other means of Identification**

**Synonyms** None

**Hazardous Material Number:** HM000478

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Light Weight Cement Additive

**Uses advised against** No information available

**Supplier's name, address and phone number**

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.
15 Marriott Road, Jandakot, WA 6164
Australia
ACN Number: 009 000 775
Telephone Number: + 61 1 800 686 951
Fax Number: 61 (08) 9455 5300

**E-mail Address** fdunexchem@halliburton.com

**Emergency phone number**

+ 61 1 800 686 951
Global Incident Response Access Code: 334305
Contract Number: 14012

**Australian Poisons Information Centre**
24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

## 2. Hazard Identification

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**Classification of the hazardous chemical**

| | |
|---|---|
| Skin Corrosion/Irritation | Category 2 - H315 |
| Serious Eye Damage/Irritation | Category 1 - H318 |

**Label elements, including precautionary statements**

**Hazard Pictograms**

**Signal Word** DANGER

**Hazard Statements:**
H315 - Causes skin irritation
H318 - Causes serious eye damage

**Precautionary Statements**

**Prevention**
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/eye protection/face protection

**Response**
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 + P364 - Take off contaminated clothing and wash before reuse
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician

**Storage** None
**Disposal** None

**Contains**

| **Substances** | **CAS Number** |
|---|---|
| Sodium silicate | 1344-09-8 |

**Other hazards which do not result in classification**
This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

## 3. Composition/information on Ingredients

| Substances | CAS Number | PERCENT (w/w) | GHS Classification - Australia |
|---|---|---|---|
| Sodium silicate | 1344-09-8 | 30 - 60% | Skin Irrit. 2 (H315)<br>Eye Corr. 1 (H318) |

## 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention.

**Skin** In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.

**Ingestion** Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Symptoms caused by exposure**
Causes severe eye irritation which may damage tissue. Causes skin irritation.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Neutralize to pH of 6-8. Scoop up and remove. Do NOT spread spilled product with water.

## 7. Handling and storage

**7.1. Precautions for safe handling**

**Handling Precautions**

Avoid contact with eyes, skin, or clothing. Wash hands after use. Launder contaminated clothing before reuse. Avoid breathing vapors. Avoid breathing mist. Ensure adequate ventilation. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage Information**

Store away from acids. Store in a cool well ventilated area. Keep container closed when not in use.

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring**

**Exposure Limits**

| Substances | CAS Number | Australia NOHSC | ACGIH TLV-TWA |
|---|---|---|---|
| Sodium silicate | 1344-09-8 | Not applicable | Not applicable |

**Appropriate engineering controls**

**Engineering Controls** Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

**Personal protective equipment (PPE)**

| | |
|---|---|
| **Personal Protective Equipment** | If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product. |
| **Respiratory Protection** | If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Dust/mist respirator. (N95, P2/P3) |
| **Hand Protection** | Chemical-resistant protective gloves (EN 374) Nitrile gloves. Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): (>= 8 mm thickness)<br>This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced. Manufacturer's directions for use should be observed because of great diversity of types. |
| **Skin Protection** | Full protective chemical resistant clothing. |
| **Eye Protection** | Chemical goggles; also wear a face shield if splashing hazard exists. |
| **Other Precautions** | Eyewash fountains and safety showers must be easily accessible. |
| **Environmental Exposure Controls** | Do not allow material to contaminate ground water system. |

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical State:** | Liquid | **Color** | Clear to hazy |
| **Odor:** | Slightly soapy | **Odor Threshold:** | No information available |

| Property<br>Remarks/ - Method | Values |
|---|---|
| **pH:** | 11.2 |
| **Freezing Point / Range** | -1 °C |
| **Melting Point / Range** | No data available |
| **Pour Point / Range** | No data available |
| **Boiling Point / Range** | 101 °C / 214 °F |
| **Flash Point** | No data available |
| **Evaporation rate** | No data available |
| **Vapor Pressure** | No data available |
| **Vapor Density** | No data available |
| **Specific Gravity** | 1.4 |
| **Water Solubility** | Soluble in water |
| **Solubility in other solvents** | No data available |
| **Partition coefficient: n-octanol/water** | No data available |
| **Autoignition Temperature** | No data available |
| **Decomposition Temperature** | No data available |
| **Viscosity** | No data available |
| **Explosive Properties** | No information available |
| **Oxidizing Properties** | No information available |

**9.2. Other information**

| | |
|---|---|
| **VOC Content (%)** | No data available |

## 10. Stability and Reactivity

**10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**
Stable
**10.3. Possibility of hazardous reactions**
Will Not Occur
**10.4. Conditions to avoid**
None anticipated
**10.5. Incompatible materials**
Strong acids. Amphoteric metals such as aluminum, magnesium, lead, tin, or zinc.
**10.6. Hazardous decomposition products**
Hydrogen

## 11. Toxicological Information

**Information on routes of exposure**
**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure**
**Most Important Symptoms/Effects**
Causes severe eye irritation which may damage tissue. Causes skin irritation.

**Toxicology data for the components**

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|---|
| Sodium silicate | 1344-09-8 | 3400 mg/kg (Rat) | > 5000 mg/kg (Rat) (similar substance) | > 2.06 mg/L (Rat) 4h (similar substance) |

**Immediate, delayed and chronic health effects from exposure**
**Inhalation** May cause respiratory irritation.
**Eye Contact** Causes severe eye irritation which may damage tissue.
**Skin Contact** Causes skin irritation.
**Ingestion** Irritation of the mouth, throat, and stomach.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**
No data available

**Interactive effects**
Skin disorders.

**Data limitations**
No data available

| Substances | CAS Number | Skin corrosion/irritation |
|---|---|---|
| Sodium silicate | 1344-09-8 | Causes moderate skin irritation. (Rabbit) |

| Substances | CAS Number | Serious eye damage/irritation |
|---|---|---|
| Sodium silicate | 1344-09-8 | Causes severe eye irritation which may damage tissue. (Rabbit) |

| Substances | CAS Number | Skin Sensitization |
|---|---|---|
| Sodium silicate | 1344-09-8 | Did not cause sensitization on laboratory animals (mouse) (similar substances) |

| Substances | CAS Number | Respiratory Sensitization |
|---|---|---|
| Sodium silicate | 1344-09-8 | No information available |

| Substances | CAS Number | Mutagenic Effects |
|---|---|---|
| Sodium silicate | 1344-09-8 | In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. |

| Substances | CAS Number | Carcinogenic Effects |
|---|---|---|
| Sodium silicate | 1344-09-8 | No information available |

| Substances | CAS Number | Reproductive toxicity |
|---|---|---|
| Sodium silicate | 1344-09-8 | Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances) |

| Substances | CAS Number | STOT - single exposure |
|---|---|---|
| Sodium silicate | 1344-09-8 | No information available. |

| Substances | CAS Number | STOT - repeated exposure |
|---|---|---|
| Sodium silicate | 1344-09-8 | No significant toxicity observed in animal studies at concentration requiring classification. |

| Substances | CAS Number | Aspiration hazard |
|---|---|---|
| Sodium silicate | 1344-09-8 | Not applicable |

## 12. Ecological Information

**Ecotoxicity**

**Substance Ecotoxicity Data**

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|---|---|---|---|---|---|
| Sodium silicate | 1344-09-8 | EC50 (72h) > 345 mg/L (growth rate) (Scenedesmus subspicatus) EC0 (72h) 35 mg/L (growth rate) (Scenedesmus subspicatus) | LC50 (96h) 1108 mg/L (Danio rerio) LC50 (96h) 260 – 310 mg/L (Oncorhynchus mykiss) | EC0 (0.5h) 3454 mg/L (Pseudomonas putida) | EC50 (48h) 1700 mg/L (Daphnia magna) |

**12.2. Persistence and degradability**

| Substances | CAS Number | Persistence and Degradability |
|---|---|---|
| Sodium silicate | 1344-09-8 | The methods for determining biodegradability are not applicable to inorganic substances. |

**12.3. Bioaccumulative potential**

| Substances | CAS Number | Bioaccumulation |
|---|---|---|
| Sodium silicate | 1344-09-8 | No information available |

**12.4. Mobility in soil**

| Substances | CAS Number | Mobility |
|---|---|---|
| Sodium silicate | 1344-09-8 | No information available |

**12.6. Other adverse effects**

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**

Disposal should be made in accordance with federal, state, and local regulations.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

## 14. Transport Information

**Transportation Information**

**Australia ADG**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IMDG/IMO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IATA/ICAO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product**

**International Inventories**

| | |
|---|---|
| **Australian AICS Inventory** | All components are listed on the AIIC or are subject to a relevant exemption, permit, or assessment certificate. |
| **New Zealand Inventory of Chemicals** | All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate. |
| **US TSCA Inventory** | All components listed on inventory or are exempt. |
| **Canadian Domestic Substances List (DSL)** | All components listed on inventory or are exempt. |

**Poisons Schedule number**

S5

**International Agreements**

| | |
|---|---|
| **Montreal Protocol - Ozone Depleting Substances:** | Does not apply. |
| **Stockholm Convention - Persistent Organic Pollutants:** | Does not apply |
| **Rotterdam Convention - Prior Informed Consent:** | Does not apply. |
| **Basel Convention - Hazardous Waste:** | Does not apply. |

## 16. Other information

**Date of preparation or review**

**Revision Date:** 03-Dec-2020

**Revision Note**
SDS sections updated:
2

**Full text of H-Statements referred to under sections 2 and 3**
H315 - Causes skin irritation
H318 - Causes serious eye damage

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abreviations or acronyms used**

bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NOEC – No Observed Effect Concentration
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
vPvB – very Persistent and very Bioaccumulative
h - hour
$mg/m^3$ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

**Key literature references and sources for data**
www.ChemADVISOR.com/
NZ CCID

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**End of Safety Data Sheet**

HALLIBURTON

# SAFETY DATA SHEET

# TUNED® SPACER III

**Revision Date:** 31-Oct-2018 **Revision Number:** 33

## 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**1.1. Product Identifier**

**Product Name** TUNED® SPACER III

**Other means of Identification**

**Synonyms** None

**Hazardous Material Number:** HM005735

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Cement; Spacer

**Uses advised against** No information available

**Supplier's name, address and phone number**

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.
15 Marriott Road, Jandakot, WA 6164
Australia
ACN Number: 009 000 775
Telephone Number: + 61 1 800 686 951
Fax Number: 61 (08) 9455 5300

**E-mail Address** fdunexchem@halliburton.com

**Emergency phone number**

+ 61 1 800 686 951
Global Incident Response Access Code: 334305
Contract Number: 14012

**Australian Poisons Information Centre**
24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

## 2. Hazard Identification

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**Classification of the hazardous chemical**

| | |
|---|---|
| Carcinogenicity | Category 1A - H350 |
| Specific Target Organ Toxicity - (Repeated Exposure) | Category 1 - H372 |

**Label elements, including precautionary statements**

**Hazard Pictograms**

**Signal Word** DANGER

**Hazard Statements:**
H350 - May cause cancer by inhalation
H372 - Causes damage to organs through prolonged or repeated exposure if inhaled

**Precautionary Statements**

**Prevention**
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P281 - Use personal protective equipment as required

**Response**
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P314 - Get medical attention/advice if you feel unwell

**Storage**
P405 - Store locked up

**Disposal**
P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

| **Contains Substances** | **CAS Number** |
|---|---|
| Crystalline silica, quartz | 14808-60-7 |

**Other hazards which do not result in classification**
None known

*For the full text of the H-phrases mentioned in this Section, see Section 16*

## 3. Composition/information on Ingredients

| Substances | CAS Number | PERCENT (w/w) | GHS Classification - Australia |
|---|---|---|---|
| Crystalline silica, quartz | 14808-60-7 | 60 - 100% | Carc. 1A (H350)<br>STOT RE 1 (H372) |

## 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin** Wash with soap and water. Get medical attention if irritation persists.

**Ingestion** Under normal conditions, first aid procedures are not required.

**Symptoms caused by exposure**
Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

**Suitable extinguishing equipment**
**Suitable Extinguishing Media**
All standard fire fighting media
**Extinguishing media which must not be used for safety reasons**
None known.

**Specific hazards arising from the chemical**
**Special exposure hazards in a fire**
Not applicable

**Special protective equipment and precautions for fire fighters**
**Special protective equipment for firefighters**
Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Use appropriate protective equipment. Avoid creating and breathing dust. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

**6.2. Environmental precautions**
Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**
Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal.

## 7. Handling and storage

**7.1. Precautions for safe handling**
**Handling Precautions**
This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet.
**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**
**Storage Information**
Do not reuse empty container. Store in a well ventilated area. Keep container closed when not in use. Store locked up.
**Other Guidelines**
No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring**
**Exposure Limits**

| Substances | CAS Number | Australia NOHSC | ACGIH TLV-TWA |
|---|---|---|---|
| Crystalline silica, quartz | 14808-60-7 | TWA: 0.1 mg/m$^3$ | TWA: 0.025 mg/m$^3$ |

**Appropriate engineering controls**
**Engineering Controls** Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.

**Personal protective equipment (PPE)**

| | |
|---|---|
| **Personal Protective Equipment** | If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product. |
| **Respiratory Protection** | Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product. |
| **Hand Protection** | Normal work gloves. |
| **Skin Protection** | Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing. |
| **Eye Protection** | Wear safety glasses or goggles to protect against exposure. |
| **Other Precautions** | None known. |
| **Environmental Exposure Controls** | Do not allow material to contaminate ground water system |

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical State:** | Powder | **Color** | Dark gray |
| **Odor:** | Odorless | **Odor Threshold:** | No information available |

| Property<br>Remarks/ - Method | Values |
|---|---|
| **pH:** | No data available |
| **Freezing Point / Range** | No data available |
| **Melting Point / Range** | No data available |
| **Pour Point / Range** | No data available |
| **Boiling Point / Range** | No data available |
| **Flash Point** | No data available |
| **Evaporation rate** | No data available |
| **Vapor Pressure** | No data available |
| **Vapor Density** | No data available |
| **Specific Gravity** | 2.51 |
| **Water Solubility** | Insoluble in water |
| **Solubility in other solvents** | No data available |
| **Partition coefficient: n-octanol/water** | No data available |
| **Autoignition Temperature** | No data available |
| **Decomposition Temperature** | No data available |
| **Viscosity** | No data available |
| **Explosive Properties** | No information available |
| **Oxidizing Properties** | No information available |

**9.2. Other information**

| | |
|---|---|
| **VOC Content (%)** | No data available |

## 10. Stability and Reactivity

**10.1. Reactivity**
Not expected to be reactive.
**10.2. Chemical stability**
Stable
**10.3. Possibility of hazardous reactions**
Will Not Occur
**10.4. Conditions to avoid**
None anticipated
**10.5. Incompatible materials**
Hydrofluoric acid.

**10.6. Hazardous decomposition products**
Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

## 11. Toxicological Information

**Information on routes of exposure**

**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure**

**Most Important Symptoms/Effects**

Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

**Toxicology data for the components**

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|---|
| Crystalline silica, quartz | 14808-60-7 | > 15000 mg/kg (human) | No data available | No data available |

**Immediate, delayed and chronic health effects from exposure**

**Inhalation** Inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC, Group 1). There is sufficient evidence in experimental animals for the carcinogenicity of tridymite (IARC, Group 2A).

Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See "Chronic Effects/Carcinogenicity" subsection below).

**Eye Contact** May cause mechanical irritation to eye.

**Skin Contact** None known.

**Ingestion** None known.

**Chronic Effects/Carcinogenicity** Silicosis: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

Cancer Status: The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2). There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

**Exposure Levels**

No data available

**Interactive effects**

Individuals with respiratory disease, including but not limited to asthma and bronchitis, or subject to eye irritation, should not be exposed to quartz dust.

**Data limitations**
No data available

| Substances | CAS Number | Skin corrosion/irritation |
|---|---|---|
| Crystalline silica, quartz | 14808-60-7 | Non-irritating to the skin |

| Substances | CAS Number | Serious eye damage/irritation |
|---|---|---|
| Crystalline silica, quartz | 14808-60-7 | Non-irritating to the eye No information available |

| Substances | CAS Number | Skin Sensitization |
|---|---|---|
| Crystalline silica, quartz | 14808-60-7 | No information available. |

| Substances | CAS Number | Respiratory Sensitization |
|---|---|---|
| Crystalline silica, quartz | 14808-60-7 | No information available |

| Substances | CAS Number | Mutagenic Effects |
|---|---|---|
| Crystalline silica, quartz | 14808-60-7 | Not regarded as mutagenic. |

| Substances | CAS Number | Carcinogenic Effects |
|---|---|---|
| Crystalline silica, quartz | 14808-60-7 | Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure. |

| Substances | CAS Number | Reproductive toxicity |
|---|---|---|
| Crystalline silica, quartz | 14808-60-7 | No information available |

| Substances | CAS Number | STOT - single exposure |
|---|---|---|
| Crystalline silica, quartz | 14808-60-7 | No significant toxicity observed in animal studies at concentration requiring classification. |

| Substances | CAS Number | STOT - repeated exposure |
|---|---|---|
| Crystalline silica, quartz | 14808-60-7 | Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs) |

| Substances | CAS Number | Aspiration hazard |
|---|---|---|
| Crystalline silica, quartz | 14808-60-7 | Not applicable |

## 12. Ecological Information

**Ecotoxicity**

**Substance Ecotoxicity Data**

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|---|---|---|---|---|---|
| Crystalline silica, quartz | 14808-60-7 | EC50(72 h)=440 mg/L (Pseudokirchneriella subcapitata) | LL0(96 h)=10000 mg/L (Danio rerio) | No information available | LL50(24 h)>10000 mg/L (Daphnia magna) |

**12.2. Persistence and degradability**

| Substances | CAS Number | Persistence and Degradability |
|---|---|---|
| Crystalline silica, quartz | 14808-60-7 | The methods for determining biodegradability are not applicable to inorganic substances. |

**12.3. Bioaccumulative potential**

| Substances | CAS Number | Bioaccumulation |
|---|---|---|
| Crystalline silica, quartz | 14808-60-7 | No information available |

**12.4. Mobility in soil**

| Substances | CAS Number | Mobility |
|---|---|---|

| | | |
|---|---|---|
| Crystalline silica, quartz | 14808-60-7 | No information available |

**12.6. Other adverse effects**

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**

Bury in a licensed landfill according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

**Environmental regulations**

Not applicable

## 14. Transport Information

**Transportation Information**

**Australia ADG**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IMDG/IMO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IATA/ICAO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**Special precautions during transport**

None

**HazChem Code**

None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product**

**International Inventories**

| | |
|---|---|
| **Australian AICS Inventory** | All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate. |
| **New Zealand Inventory of Chemicals** | All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate. |
| **US TSCA Inventory** | All components listed on inventory or are exempt. |

**Canadian Domestic Substances List (DSL)** All components listed on inventory or are exempt.

**Poisons Schedule number**
None Allocated

**International Agreements**

| | |
|---|---|
| **Montreal Protocol - Ozone Depleting Substances:** | Does not apply. |
| **Stockholm Convention - Persistent Organic Pollutants:** | Does not apply |
| **Rotterdam Convention - Prior Informed Consent:** | Does not apply. |
| **Basel Convention - Hazardous Waste:** | Does not apply. |

## 16. Other information

**Date of preparation or review**

**Revision Date:** 31-Oct-2018

**Revision Note**
SDS sections updated:
2

**Full text of H-Statements referred to under sections 2 and 3**
H350 - May cause cancer by inhalation
H372 - Causes damage to organs through prolonged or repeated exposure if inhaled

**Additional information** For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abreviations or acronyms used**
bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NOEC – No Observed Effect Concentration
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
vPvB – very Persistent and very Bioaccumulative
h - hour
$mg/m^3$ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

**Key literature references and sources for data**
www.ChemADVISOR.com/

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conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**

HALLIBURTON

# SAFETY DATA SHEET

# HALAD® 413L CEMENT ADDITIVE

**Revision Date:** 07-May-2018 **Revision Number:** 26

## 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**1.1. Product Identifier**

**Product Name** HALAD® 413L CEMENT ADDITIVE

**Other means of Identification**

**Synonyms** None

**Hazardous Material Number:** HM000824

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Fluid Loss Additive

**Uses advised against** No information available

**Supplier's name, address and phone number**

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.
15 Marriott Road, Jandakot, WA 6164
Australia
ACN Number: 009 000 775
Telephone Number: + 61 1 800 686 951
Fax Number: 61 (08) 9455 5300

**E-mail Address** fdunexchem@halliburton.com

**Emergency phone number**

+ 61 1 800 686 951
Global Incident Response Access Code: 334305
Contract Number: 14012

**Australian Poisons Information Centre**
24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

## 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**Classification of the hazardous chemical**

Not classified

**Label elements, including precautionary statements**

**Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

| | |
|---|---|
| **Prevention** | None |
| **Response** | None |
| **Storage** | None |
| **Disposal** | None |

**Contains**

| **Substances** | **CAS Number** |
|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA |

**Other hazards which do not result in classification**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

## 3. Composition/information on Ingredients

| Substances | CAS Number | PERCENT (w/w) | GHS Classification - Australia |
|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | 60 - 100% | Not classified |

## 4. First aid measures

**Description of necessary first aid measures**

| | |
|---|---|
| **Inhalation** | If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult. |
| **Eyes** | In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists. |
| **Skin** | Wash with soap and water. Get medical attention if irritation persists. |
| **Ingestion** | Under normal conditions, first aid procedures are not required. |

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

| | |
|---|---|
| **Notes to Physician** | Treat symptomatically |

## 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

All standard fire fighting media

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors.

**6.2. Environmental precautions**
Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**
Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

## 7. Handling and storage

**7.1. Precautions for safe handling**
**Handling Precautions**
Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.
**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**
**Storage Information**
Store away from oxidizers. Product has a shelf life of 24 months.
**Other Guidelines**
No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring**
**Exposure Limits**

| Substances | CAS Number | Australia NOHSC | ACGIH TLV-TWA |
|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | Not applicable | Not applicable |

**Appropriate engineering controls**
**Engineering Controls** Use in a well ventilated area.

**Personal protective equipment (PPE)**
**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
**Respiratory Protection** If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.
Not normally needed. But if significant exposures are possible then the following respirator is recommended:
Dust/mist respirator. (N95, P2/P3)
**Hand Protection** Normal work gloves.
**Skin Protection** Normal work coveralls.
**Eye Protection** Wear safety glasses or goggles to protect against exposure.
**Other Precautions** None known.
**Environmental Exposure Controls** Do not allow material to contaminate ground water system

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

**Physical State:** Liquid
**Color** Brown-black
**Odor:** Sweet
**Odor Threshold:** No information available

| Property<br>Remarks/ - Method | Values |
|---|---|
| **pH:** | 7.5 |
| **Freezing Point / Range** | No data available |
| **Melting Point / Range** | No data available |
| **Boiling Point / Range** | No data available |
| **Flash Point** | No data available |
| **Evaporation rate** | No data available |
| **Vapor Pressure** | No data available |
| **Vapor Density** | No data available |
| **Specific Gravity** | 1.1 |
| **Water Solubility** | Miscible with water |
| **Solubility in other solvents** | No data available |
| **Partition coefficient: n-octanol/water** | No data available |
| **Autoignition Temperature** | No data available |
| **Decomposition Temperature** | No data available |
| **Viscosity** | No data available |
| **Explosive Properties** | No information available |
| **Oxidizing Properties** | No information available |

**9.2. Other information**

**VOC Content (%)** No data available

## 10. Stability and Reactivity

**10.1. Reactivity**
Not expected to be reactive.
**10.2. Chemical stability**
Stable
**10.3. Possibility of hazardous reactions**
Will Not Occur
**10.4. Conditions to avoid**
None anticipated
**10.5. Incompatible materials**
Strong oxidizers.
**10.6. Hazardous decomposition products**
Oxides of nitrogen. Carbon monoxide and carbon dioxide.

## 11. Toxicological Information

**Information on routes of exposure**
**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure**
**Most Important Symptoms/Effects**
No significant hazards expected.

**Toxicology data for the components**

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No data available | No data available | No data available |

**Immediate, delayed and chronic health effects from exposure**

**Inhalation** None known.
**Eye Contact** None known.
**Skin Contact** None known.
**Ingestion** None known.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**
No data available

**Interactive effects**
None known.

**Data limitations**
No data available

## 12. Ecological Information

**Ecotoxicity**

**Substance Ecotoxicity Data**

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|---|---|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available | No information available | No information available | No information available |

**12.2. Persistence and degradability**

| Substances | CAS Number | Persistence and Degradability |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.3. Bioaccumulative potential**

| Substances | CAS Number | Log Pow |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.4. Mobility in soil**

| Substances | CAS Number | Mobility |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.6. Other adverse effects**

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**

Disposal should be made in accordance with federal, state, and local regulations.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

## 14. Transport Information

**Transportation Information**

**Australia ADG**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IMDG/IMO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IATA/ICAO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**Special precautions during transport**

None

**HazChem Code**

None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product**

**International Inventories**

| | |
|---|---|
| **Australian AICS Inventory** | All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate. |
| **New Zealand Inventory of Chemicals** | All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate. |
| **EINECS (European Inventory of Existing Chemical Substances)** | This product, and all its components, complies with EINECS |
| **US TSCA Inventory** | All components listed on inventory or are exempt. |
| **Canadian Domestic Substances List (DSL)** | Product contains one or more components not listed on the inventory. |

**Poisons Schedule number**
None Allocated

**International Agreements**

| | |
|---|---|
| **Montreal Protocol - Ozone Depleting Substances:** | Does not apply. |
| **Stockholm Convention - Persistent Organic Pollutants:** | Does not apply |
| **Rotterdam Convention - Prior Informed Consent:** | Does not apply. |
| **Basel Convention - Hazardous Waste:** | Does not apply. |

## 16. Other information

**Date of preparation or review**

**Revision Date:** 07-May-2018

**Revision Note**
SDS sections updated:
2

**Full text of H-Statements referred to under sections 2 and 3**
None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abreviations or acronyms used**
bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NOEC – No Observed Effect Concentration
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
vPvB – very Persistent and very Bioaccumulative
h - hour
$mg/m^3$ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

**Key literature references and sources for data**
www.ChemADVISOR.com/
NZ CCID

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**End of Safety Data Sheet**

HALLIBURTON

# SAFETY DATA SHEET

# GASCON 469

**Revision Date:** 30-Apr-2020 **Revision Number:** 33

## 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**1.1. Product Identifier**

**Product Name** GASCON 469

**Other means of Identification**

**Synonyms** None

**Hazardous Material Number:** HM000753

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Cement Additive

**Uses advised against** No information available

**Supplier's name, address and phone number**

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.
15 Marriott Road, Jandakot, WA 6164
Australia
ACN Number: 009 000 775
Telephone Number: + 61 1 800 686 951
Fax Number: 61 (08) 9455 5300

**E-mail Address** fdunexchem@halliburton.com

**Emergency phone number**

+ 61 1 800 686 951
Global Incident Response Access Code: 334305
Contract Number: 14012

**Australian Poisons Information Centre**
24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

## 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**Classification of the hazardous chemical**

Not classified

**Label elements, including precautionary statements**

**Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None
**Response** None
**Storage** None
**Disposal** None

**Contains**

| **Substances** | **CAS Number** |
|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA |

**Other hazards which do not result in classification**
This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

## 3. Composition/information on Ingredients

| Substances | CAS Number | PERCENT (w/w) | GHS Classification - Australia |
|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | 60 - 100% | Not classified |

## 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin** Wash with soap and water. Get medical attention if irritation persists.

**Ingestion** Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Symptoms caused by exposure**
No significant hazards expected.

**Medical Attention and Special Treatment**
**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

**Suitable extinguishing equipment**
**Suitable Extinguishing Media**
All standard fire fighting media
**Extinguishing media which must not be used for safety reasons**
None known.

**Specific hazards arising from the chemical**
**Special exposure hazards in a fire**
Not applicable

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**
Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

**6.2. Environmental precautions**
Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**
Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

## 7. Handling and storage

**7.1. Precautions for safe handling**
**Handling Precautions**
Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.
**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**
**Storage Information**
Store in a cool well ventilated area. Keep from excessive heat. Keep from freezing. Keep container closed when not in use. Store in non-rusting containers. Product has a shelf life of 12 months.
**Other Guidelines**
No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring**
**Exposure Limits**

| Substances | CAS Number | Australia NOHSC | ACGIH TLV-TWA |
|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | Not applicable | Not applicable |

**Appropriate engineering controls**
**Engineering Controls** Use in a well ventilated area.

**Personal protective equipment (PPE)**
**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
**Respiratory Protection** If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Dust/mist respirator. (N95, P2/P3)
**Hand Protection** None known.
**Skin Protection** Normal work coveralls.
**Eye Protection** Chemical goggles; also wear a face shield if splashing hazard exists.
**Other Precautions** None known.
**Environmental Exposure Controls** Do not allow material to contaminate ground water system.

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

**Physical State:** Liquid
**Color** Transparent
**Odor:** Odorless
**Odor Threshold:** No information available

| Property<br>Remarks/ - Method | Values |
|---|---|
| **pH:** | 10 |
| **Freezing Point / Range** | No data available |
| **Melting Point / Range** | No data available |
| **Pour Point / Range** | No data available |
| **Boiling Point / Range** | 100 °C / 212 °F |
| **Flash Point** | No data available |
| **Evaporation rate** | No data available |
| **Vapor Pressure** | No data available |
| **Vapor Density** | No data available |
| **Specific Gravity** | 1.1 |
| **Water Solubility** | Soluble in water (10g/100ml) |
| **Solubility in other solvents** | No data available |
| **Partition coefficient: n-octanol/water** | No data available |
| **Autoignition Temperature** | No data available |
| **Decomposition Temperature** | No data available |
| **Viscosity** | No data available |
| **Explosive Properties** | No information available |
| **Oxidizing Properties** | No information available |

**9.2. Other information**

**VOC Content (%)** 80

## 10. Stability and Reactivity

**10.1. Reactivity**
Not expected to be reactive.
**10.2. Chemical stability**
Stable
**10.3. Possibility of hazardous reactions**
Will Not Occur
**10.4. Conditions to avoid**
None anticipated
**10.5. Incompatible materials**
Strong oxidizers. Strong acids.
**10.6. Hazardous decomposition products**
None known.

## 11. Toxicological Information

**Information on routes of exposure**
**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure**
**Most Important Symptoms/Effects**
No significant hazards expected.

**Toxicology data for the components**

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|---|
| Contains no hazardous | NA | No data available | No data available | No data available |

| | | | | |
|---|---|---|---|---|
| substances in concentrations above cut-off values according to the competent authority | | | | |

**Immediate, delayed and chronic health effects from exposure**

**Inhalation** None known.
**Eye Contact** May cause mechanical irritation to eye.
**Skin Contact** May cause mild skin irritation.
**Ingestion** None known.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**
No data available

**Interactive effects**
None known.

**Data limitations**
No data available

## 12. Ecological Information

**Ecotoxicity**

**Substance Ecotoxicity Data**

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|---|---|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available | No information available | No information available | No information available |

**12.2. Persistence and degradability**

| Substances | CAS Number | Persistence and Degradability |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.3. Bioaccumulative potential**

| Substances | CAS Number | Bioaccumulation |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

### 12.4. Mobility in soil

| Substances | CAS Number | Mobility |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

### 12.6. Other adverse effects

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**

Disposal should be made in accordance with federal, state, and local regulations. Incineration recommended in approved incinerator according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

## 14. Transport Information

**Transportation Information**

**Australia ADG**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IMDG/IMO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IATA/ICAO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**Special precautions during transport**

None

**HazChem Code**

None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product**

**International Inventories**

**Australian AICS Inventory** All components are listed on the AICS or are subject to a relevant exemption, permit, or

| | |
|---|---|
| | assessment certificate. |
| **New Zealand Inventory of Chemicals** | All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate. |
| **US TSCA Inventory** | All components listed on inventory or are exempt. |
| **Canadian Domestic Substances List (DSL)** | All components listed on inventory or are exempt. |

**Poisons Schedule number**
None Allocated

**International Agreements**

| | |
|---|---|
| **Montreal Protocol - Ozone Depleting Substances:** | Does not apply. |
| **Stockholm Convention - Persistent Organic Pollutants:** | Does not apply |
| **Rotterdam Convention - Prior Informed Consent:** | Does not apply. |
| **Basel Convention - Hazardous Waste:** | Does not apply. |

## 16. Other information

**Date of preparation or review**

**Revision Date:** 30-Apr-2020

**Revision Note**
SDS sections updated:
2

**Full text of H-Statements referred to under sections 2 and 3**
None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abreviations or acronyms used**
bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NOEC – No Observed Effect Concentration
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
vPvB – very Persistent and very Bioaccumulative
h - hour
$mg/m^3$ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

**Key literature references and sources for data**
www.ChemADVISOR.com/
NZ CCID

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**End of Safety Data Sheet**

HALLIBURTON

# SAFETY DATA SHEET

# CFR-8L

**Revision Date:** 24-Apr-2018 **Revision Number:** 21

## 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**1.1. Product Identifier**

**Product Name** CFR-8L

**Other means of Identification**

**Synonyms** None

**Hazardous Material Number:** HM005627

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Cement Dispersant

**Uses advised against** No information available

**Supplier's name, address and phone number**

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.
15 Marriott Road, Jandakot, WA 6164
Australia
ACN Number: 009 000 775
Telephone Number: + 61 1 800 686 951
Fax Number: 61 (08) 9455 5300

**E-mail Address** fdunexchem@halliburton.com

**Emergency phone number**

+ 61 1 800 686 951
Global Incident Response Access Code: 334305
Contract Number: 14012

**Australian Poisons Information Centre**
24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

## 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**Classification of the hazardous chemical**

Not classified

**Label elements, including precautionary statements**

**Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

| | |
|---|---|
| **Prevention** | None |
| **Response** | None |
| **Storage** | None |
| **Disposal** | None |

**Contains**

| **Substances** | **CAS Number** |
|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA |

**Other hazards which do not result in classification**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

## 3. Composition/information on Ingredients

| Substances | CAS Number | PERCENT (w/w) | GHS Classification - Australia |
|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | 60 - 100% | Not classified |

## 4. First aid measures

**Description of necessary first aid measures**

| | |
|---|---|
| **Inhalation** | If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult. |
| **Eyes** | In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists. |
| **Skin** | Wash with soap and water. Get medical attention if irritation persists. |
| **Ingestion** | Under normal conditions, first aid procedures are not required. |

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

| | |
|---|---|
| **Notes to Physician** | Treat symptomatically |

## 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

**6.2. Environmental precautions**
Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**
Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

## 7. Handling and storage

**7.1. Precautions for safe handling**
**Handling Precautions**
Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.
**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**
**Storage Information**
Store away from oxidizers. Keep container closed when not in use.
**Other Guidelines**
No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring**
**Exposure Limits**

| Substances | CAS Number | Australia NOHSC | ACGIH TLV-TWA |
|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | Not applicable | Not applicable |

**Appropriate engineering controls**
**Engineering Controls** Use in a well ventilated area.

**Personal protective equipment (PPE)**
**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
**Respiratory Protection** Not normally necessary.

**Hand Protection** Nitrile gloves.
**Skin Protection** Normal work coveralls.
**Eye Protection** Wear safety glasses or goggles to protect against exposure.
**Other Precautions** None known.
**Environmental Exposure Controls** Do not allow material to contaminate ground water system

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical State:** | Liquid | **Color** | Brown-black |
| **Odor:** | Characteristic | **Odor Threshold:** | No information available |

| Property | Values | Remarks/ - Method |
|---|---|---|
| **pH:** | 9 - 11.3 | |
| **Freezing Point / Range** | -7 °C | |
| **Melting Point / Range** | No data available | |
| **Boiling Point / Range** | 100 °C / 212 °F | |
| **Flash Point** | No data available | |
| **Evaporation rate** | No data available | |
| **Vapor Pressure** | < 18 mmHg | |
| **Vapor Density** | No data available | |
| **Specific Gravity** | 1.17 - 1.2 | |
| **Water Solubility** | Soluble in water | |
| **Solubility in other solvents** | No data available | |
| **Partition coefficient: n-octanol/water** | No data available | |
| **Autoignition Temperature** | No data available | |
| **Decomposition Temperature** | No data available | |
| **Viscosity** | No data available | |
| **Explosive Properties** | No information available | |
| **Oxidizing Properties** | No information available | |

**9.2. Other information**

**VOC Content (%)** No data available

## 10. Stability and Reactivity

**10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

None anticipated

**10.5. Incompatible materials**

Strong oxidizers.

**10.6. Hazardous decomposition products**

Oxides of sulfur.

## 11. Toxicological Information

**Information on routes of exposure**

**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure**

**Most Important Symptoms/Effects**

No significant hazards expected.

**Toxicology data for the components**

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No data available | No data available | No data available |

**Immediate, delayed and chronic health effects from exposure**

**Inhalation** May cause mild respiratory irritation.

**Eye Contact** May cause mechanical irritation to eye.

**Skin Contact** None known.

**Ingestion** May cause abdominal pain, vomiting, nausea, and diarrhea.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**
No data available

**Interactive effects**
None known.

**Data limitations**
No data available

## 12. Ecological Information

**Ecotoxicity**

**Substance Ecotoxicity Data**

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|---|---|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available | No information available | No information available | No information available |

**12.2. Persistence and degradability**

| Substances | CAS Number | Persistence and Degradability |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.3. Bioaccumulative potential**

| Substances | CAS Number | Log Pow |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.4. Mobility in soil**

| Substances | CAS Number | Mobility |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.6. Other adverse effects**
No information available
**Endocrine Disruptor Information**
This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**
Disposal should be made in accordance with federal, state, and local regulations.

**Disposal of any contaminated packaging**
Follow all applicable national or local regulations.

**Environmental regulations**
Not applicable

## 14. Transport Information

**Transportation Information**

**Australia ADG**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IMDG/IMO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IATA/ICAO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**Special precautions during transport**
None

**HazChem Code**
None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product**

**International Inventories**

| | |
|---|---|
| **Australian AICS Inventory** | All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate. |
| **New Zealand Inventory of Chemicals** | Product contains one or more components not listed on inventory. |
| **EINECS (European Inventory of Existing Chemical Substances)** | This product, and all its components, complies with EINECS |
| **US TSCA Inventory** | Product contains one or more components not listed on the inventory. |
| **Canadian Domestic Substances List (DSL)** | Product contains one or more components not listed on the inventory. |

**Poisons Schedule number**
None Allocated

**International Agreements**

| | |
|---|---|
| **Montreal Protocol - Ozone Depleting Substances:** | Does not apply. |
| **Stockholm Convention - Persistent Organic Pollutants:** | Does not apply |
| **Rotterdam Convention - Prior Informed Consent:** | Does not apply. |
| **Basel Convention - Hazardous Waste:** | Does not apply. |

## 16. Other information

**Date of preparation or review**

**Revision Date:** 24-Apr-2018

**Revision Note**
SDS sections updated:
2

**Full text of H-Statements referred to under sections 2 and 3**
None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abreviations or acronyms used**
bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NOEC – No Observed Effect Concentration
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
vPvB – very Persistent and very Bioaccumulative
h - hour
$mg/m^3$ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

**Key literature references and sources for data**
www.ChemADVISOR.com/

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**End of Safety Data Sheet**

HALLIBURTON

# SAFETY DATA SHEET

# HR-6L

**Revision Date:** 10-Mar-2020 **Revision Number:** 23

## 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**1.1. Product Identifier**

**Product Name** HR-6L

**Other means of Identification**

**Synonyms** None

**Hazardous Material Number:** HM000901

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Cement Retarder

**Uses advised against** No information available

**Supplier's name, address and phone number**

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.
15 Marriott Road, Jandakot, WA 6164
Australia
ACN Number: 009 000 775
Telephone Number: + 61 1 800 686 951
Fax Number: 61 (08) 9455 5300

**E-mail Address** fdunexchem@halliburton.com

**Emergency phone number**

+ 61 1 800 686 951
Global Incident Response Access Code: 334305
Contract Number: 14012

**Australian Poisons Information Centre**
24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

## 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**Classification of the hazardous chemical**

Not classified

**Label elements, including precautionary statements**

**Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None
**Response** None
**Storage** None
**Disposal** None

**Contains**

| **Substances** | **CAS Number** |
|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA |

**Other hazards which do not result in classification**
This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

## 3. Composition/information on Ingredients

| Substances | CAS Number | PERCENT (w/w) | GHS Classification - Australia |
|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | 60 - 100% | Not classified |

## 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin** Wash with soap and water. Get medical attention if irritation persists.

**Ingestion** Under normal conditions, first aid procedures are not required.

**Symptoms caused by exposure**
No significant hazards expected.

**Medical Attention and Special Treatment**
**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

**Suitable extinguishing equipment**
**Suitable Extinguishing Media**
Water fog, carbon dioxide, foam, dry chemical.
**Extinguishing media which must not be used for safety reasons**
None known.

**Specific hazards arising from the chemical**
**Special exposure hazards in a fire**
Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters**
**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Use appropriate protective equipment.

**6.2. Environmental precautions**
Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**
Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

## 7. Handling and storage

**7.1. Precautions for safe handling**
**Handling Precautions**
Avoid contact with eyes, skin, or clothing. Avoid breathing vapors.
**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**
**Storage Information**
Store away from oxidizers. Keep container closed when not in use.
**Other Guidelines**
No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring**
**Exposure Limits**

| Substances | CAS Number | Australia NOHSC | ACGIH TLV-TWA |
|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | Not applicable | Not applicable |

**Appropriate engineering controls**
**Engineering Controls** Use in a well ventilated area.

**Personal protective equipment (PPE)**
**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
**Respiratory Protection** Not normally necessary.

**Hand Protection** Normal work gloves.
**Skin Protection** Normal work coveralls.
**Eye Protection** Wear safety glasses or goggles to protect against exposure.
**Other Precautions** None known.
**Environmental Exposure Controls** No information available

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**
**Physical State:** Liquid
**Color** Dark brown
**Odor:** Molasses
**Odor Threshold:** No information available

| Property<br>Remarks/ - Method | Values |
|---|---|
| **pH:** | 9.5 |
| **Freezing Point / Range** | No data available |
| **Melting Point / Range** | No data available |
| **Pour Point / Range** | No data available |
| **Boiling Point / Range** | No data available |
| **Flash Point** | > 98 °C / > 210 °F (PMCC) |
| **Evaporation rate** | No data available |
| **Vapor Pressure** | No data available |
| **Vapor Density** | No data available |
| **Specific Gravity** | 1.21 |
| **Water Solubility** | Soluble in water |
| **Solubility in other solvents** | No data available |
| **Partition coefficient: n-octanol/water** | No data available |
| **Autoignition Temperature** | No data available |
| **Decomposition Temperature** | No data available |
| **Viscosity** | No data available |
| **Explosive Properties** | No information available |
| **Oxidizing Properties** | No information available |

**9.2. Other information**

| | |
|---|---|
| **VOC Content (%)** | No data available |
| **Liquid Density** | 10.08 lbs/gal |

## 10. Stability and Reactivity

**10.1. Reactivity**
Not expected to be reactive.
**10.2. Chemical stability**
Stable
**10.3. Possibility of hazardous reactions**
Will Not Occur
**10.4. Conditions to avoid**
None anticipated
**10.5. Incompatible materials**
Strong oxidizers.
**10.6. Hazardous decomposition products**
Oxides of sulfur. Carbon monoxide and carbon dioxide.

## 11. Toxicological Information

**Information on routes of exposure**
**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure**
**Most Important Symptoms/Effects**
No significant hazards expected.

**Toxicology data for the components**

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No data available | No data available | No data available |

**Immediate, delayed and chronic health effects from exposure**

**Inhalation** May cause mild respiratory irritation.
**Eye Contact** May cause mechanical irritation to eye.
**Skin Contact** None known.
**Ingestion** None known.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**
No data available

**Interactive effects**
None known.

**Data limitations**
No data available

## 12. Ecological Information

**Ecotoxicity**

**Substance Ecotoxicity Data**

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|---|---|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available | No information available | No information available | No information available |

**12.2. Persistence and degradability**

| Substances | CAS Number | Persistence and Degradability |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.3. Bioaccumulative potential**

| Substances | CAS Number | Bioaccumulation |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.4. Mobility in soil**

| Substances | CAS Number | Mobility |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.6. Other adverse effects**

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**

This product is not regarded as hazardous waste. Dispose in accordance with local regulations.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

## 14. Transport Information

**Transportation Information**

**Australia ADG**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IMDG/IMO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IATA/ICAO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**Special precautions during transport**

None

**HazChem Code**

None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product**

**International Inventories**

| | |
|---|---|
| **Australian AICS Inventory** | All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate. |
| **New Zealand Inventory of Chemicals** | All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate. |
| **US TSCA Inventory** | All components listed on inventory or are exempt. |
| **Canadian Domestic Substances List (DSL)** | All components listed on inventory or are exempt. |

**Poisons Schedule number**

None Allocated

**International Agreements**

| | |
|---|---|
| **Montreal Protocol - Ozone Depleting Substances:** | Does not apply. |
| **Stockholm Convention - Persistent Organic Pollutants:** | Does not apply |
| **Rotterdam Convention - Prior Informed Consent:** | Does not apply. |
| **Basel Convention - Hazardous Waste:** | Does not apply. |

## 16. Other information

**Date of preparation or review**

**Revision Date:** 10-Mar-2020

**Revision Note**
SDS sections updated:
2

**Full text of H-Statements referred to under sections 2 and 3**
None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abreviations or acronyms used**

bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NOEC – No Observed Effect Concentration
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
vPvB – very Persistent and very Bioaccumulative
h - hour
$mg/m^3$ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

**Key literature references and sources for data**
www.ChemADVISOR.com/
NZ CCID

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**End of Safety Data Sheet**

HALLIBURTON

# SAFETY DATA SHEET

# NF-6

**Revision Date:** 11-Feb-2021 **Revision Number:** 41

## 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**1.1. Product Identifier**

**Product Name** NF-6

**Other means of Identification**

**Synonyms** None

**Hazardous Material Number:** HM001971

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Defoamer

**Uses advised against** No information available

**Supplier's name, address and phone number**

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.
15 Marriott Road, Jandakot, WA 6164
Australia
ACN Number: 009 000 775
Telephone Number: + 61 1 800 686 951
Fax Number: 61 (08) 9455 5300

**E-mail Address** fdunexchem@halliburton.com

**Emergency phone number**

+ 61 1 800 686 951
Global Incident Response Access Code: 334305
Contract Number: 14012

**Australian Poisons Information Centre**
24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

## 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**Classification of the hazardous chemical**

Not classified

**Label elements, including precautionary statements**

**Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None
**Response** None
**Storage** None
**Disposal** None

**Contains**

| **Substances** | **CAS Number** |
|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA |

**Other hazards which do not result in classification**
This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

## 3. Composition/information on Ingredients

| Substances | CAS Number | PERCENT (w/w) | GHS Classification - Australia |
|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | 60 - 100% | Not classified |

## 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin** Wash with soap and water. Get medical attention if irritation persists.

**Ingestion** Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Symptoms caused by exposure**
No significant hazards expected.

**Medical Attention and Special Treatment**
**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

**Suitable extinguishing equipment**
**Suitable Extinguishing Media**
Carbon dioxide, dry chemical, foam.
**Extinguishing media which must not be used for safety reasons**
None known.

**Specific hazards arising from the chemical**
**Special exposure hazards in a fire**
Use water spray to cool fire exposed surfaces. Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**
Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

**6.2. Environmental precautions**
Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**
Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

## 7. Handling and storage

**7.1. Precautions for safe handling**
**Handling Precautions**
Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.
**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**
**Storage Information**
Store away from oxidizers. Keep container closed when not in use.
**Other Guidelines**
No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring**
**Exposure Limits**

| Substances | CAS Number | Australia NOHSC | ACGIH TLV-TWA |
|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | Not applicable | Not applicable |

**Appropriate engineering controls**
**Engineering Controls** A well ventilated area to control dust levels. Local exhaust ventilation should be used in areas without good cross ventilation.

**Personal protective equipment (PPE)**
**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
**Respiratory Protection** If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Organic vapor respirator with a dust/mist filter. (A2P2/P3)
**Hand Protection** Chemical-resistant protective gloves (EN 374) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Polyvinylchloride gloves. (>= 8 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in

| | |
|---|---|
| | practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced. Manufacturer's directions for use should be observed because of great diversity of types. |
| **Skin Protection** | Normal work coveralls. |
| **Eye Protection** | Chemical goggles; also wear a face shield if splashing hazard exists. |
| **Other Precautions** | None known. |
| **Environmental Exposure Controls** | Do not allow material to contaminate ground water system. |

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical State:** | Liquid | **Color** | Yellow |
| **Odor:** | Mild | **Odor Threshold:** | No information available |

| Property<br>Remarks/ - Method | Values |
|---|---|
| **pH:** | No data available |
| **Freezing Point / Range** | No data available |
| **Melting Point / Range** | No data available |
| **Pour Point / Range** | No data available |
| **Boiling Point / Range** | 182 °C / 360 °F |
| **Flash Point** | > 170 °C / > 340 °F |
| **Evaporation rate** | No data available |
| **Vapor Pressure** | No data available |
| **Vapor Density** | No data available |
| **Specific Gravity** | 0.93 |
| **Water Solubility** | Dispersible |
| **Solubility in other solvents** | No data available |
| **Partition coefficient: n-octanol/water** | No data available |
| **Autoignition Temperature** | 385 °C / 725 °F |
| **Decomposition Temperature** | No data available |
| **Viscosity** | No data available |
| **Explosive Properties** | No information available |
| **Oxidizing Properties** | No information available |

**9.2. Other information**

| | |
|---|---|
| **VOC Content (%)** | No data available |
| **Liquid Density** | 7.70 lbs/gal |

## 10. Stability and Reactivity

**10.1. Reactivity**
Not expected to be reactive.
**10.2. Chemical stability**
Stable
**10.3. Possibility of hazardous reactions**
Will Not Occur
**10.4. Conditions to avoid**
None anticipated
**10.5. Incompatible materials**
Strong oxidizers.
**10.6. Hazardous decomposition products**
Hydrocarbons. Carbon monoxide and carbon dioxide.

## 11. Toxicological Information

**Information on routes of exposure**
**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure**

**Most Important Symptoms/Effects**

No significant hazards expected.

**Toxicology data for the components**

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No data available | No data available | No data available |

**Immediate, delayed and chronic health effects from exposure**

**Inhalation** May cause mild respiratory irritation.

**Eye Contact** None known.

**Skin Contact** None known.

**Ingestion** May cause abdominal pain, vomiting, nausea, and diarrhea.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

## 12. Ecological Information

**Ecotoxicity**

**Product Ecotoxicity Data**

**Substance Ecotoxicity Data**

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|---|---|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available | No information available | No information available | No information available |

**12.2. Persistence and degradability**

| Substances | CAS Number | Persistence and Degradability |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.3. Bioaccumulative potential**

| Substances | CAS Number | Bioaccumulation |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.4. Mobility in soil**

| Substances | CAS Number | Mobility |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.6. Other adverse effects**

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**

Dispose in accordance with local regulations.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

**Environmental regulations**

Not applicable

## 14. Transport Information

**Transportation Information**

**Australia ADG**

**UN Number** Not restricted
**UN proper shipping name:** Not restricted
**Transport Hazard Class(es):** Not applicable
**Packing Group:** Not applicable
**Environmental Hazards:** Not applicable

**IMDG/IMO**

**UN Number** Not restricted
**UN proper shipping name:** Not restricted
**Transport Hazard Class(es):** Not applicable
**Packing Group:** Not applicable
**Environmental Hazards:** Not applicable

**IATA/ICAO**

**UN Number** Not restricted
**UN proper shipping name:** Not restricted
**Transport Hazard Class(es):** Not applicable
**Packing Group:** Not applicable
**Environmental Hazards:** Not applicable

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

**Special precautions during transport**
None

**HazChem Code**
None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product**

**International Inventories**

| | |
|---|---|
| **Australian AICS Inventory** | All components are listed on the AIIC or are subject to a relevant exemption, permit, or assessment certificate. |
| **New Zealand Inventory of Chemicals** | All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate. |
| **US TSCA Inventory** | All components listed on inventory or are exempt. |
| **Canadian Domestic Substances List (DSL)** | All components listed on inventory or are exempt. |

**Poisons Schedule number**
None Allocated

**International Agreements**

| | |
|---|---|
| **Montreal Protocol - Ozone Depleting Substances:** | Does not apply. |
| **Stockholm Convention - Persistent Organic Pollutants:** | Does not apply |
| **Rotterdam Convention - Prior Informed Consent:** | Does not apply. |
| **Basel Convention - Hazardous Waste:** | Does not apply. |

## 16. Other information

**Date of preparation or review**

**Revision Date:** 11-Feb-2021

**Revision Note**
SDS sections updated:
2

**Full text of H-Statements referred to under sections 2 and 3**
None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abreviations or acronyms used**
bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NOEC – No Observed Effect Concentration
OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
vPvB – very Persistent and very Bioaccumulative
h - hour
$mg/m^3$ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

**Key literature references and sources for data**
www.ChemADVISOR.com/
NZ CCID
Cosmetic Ingredient Review

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**End of Safety Data Sheet**

HALLIBURTON

# SAFETY DATA SHEET

# HALAD® 344 CEMENT ADDITIVE

**Revision Date:** 01-Feb-2021 **Revision Number:** 45

## 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**1.1. Product Identifier**

**Product Name** HALAD® 344 CEMENT ADDITIVE

**Other means of Identification**

**Synonyms** None

**Hazardous Material Number:** HM000816

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Fluid Loss Additive

**Uses advised against** No information available

**Supplier's name, address and phone number**

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.
15 Marriott Road, Jandakot, WA 6164
Australia
ACN Number: 009 000 775
Telephone Number: + 61 1 800 686 951
Fax Number: 61 (08) 9455 5300

**E-mail Address** fdunexchem@halliburton.com

**Emergency phone number**

+ 61 1 800 686 951
Global Incident Response Access Code: 334305
Contract Number: 14012

**Australian Poisons Information Centre**
24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

## 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**Classification of the hazardous chemical**

Not classified

**Label elements, including precautionary statements**

**Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None
**Response** None
**Storage** None
**Disposal** None

**Contains**

| **Substances** | **CAS Number** |
|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA |

**Other hazards which do not result in classification**
This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

## 3. Composition/information on Ingredients

| Substances | CAS Number | PERCENT (w/w) | GHS Classification - Australia |
|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | NF | Not classified |

## 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

**Skin** Wash with soap and water. Get medical attention if irritation persists.

**Ingestion** Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Symptoms caused by exposure**
No significant hazards expected.

**Medical Attention and Special Treatment**
**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

**Suitable extinguishing equipment**
**Suitable Extinguishing Media**
All standard fire fighting media
**Extinguishing media which must not be used for safety reasons**
None known.

**Specific hazards arising from the chemical**
**Special exposure hazards in a fire**
Decomposition in fire may produce harmful gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Scoop up and remove.

## 7. Handling and storage

**7.1. Precautions for safe handling**

**Handling Precautions**

Avoid creating or inhaling dust. Avoid contact with eyes, skin, or clothing. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage Information**

Store in a cool, dry location. Store away from oxidizers. Keep container closed when not in use. Product has a shelf life of 60 months.

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring**

**Exposure Limits**

| Substances | CAS Number | Australia NOHSC | ACGIH TLV-TWA |
|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | Not applicable | Not applicable |

**Appropriate engineering controls**

**Engineering Controls** Use in a well ventilated area.

**Personal protective equipment (PPE)**

**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection** If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Dust/mist respirator. (N95, P2/P3)

**Hand Protection** None known.

**Skin Protection** Normal work coveralls.

**Eye Protection** Wear safety glasses or goggles to protect against exposure.

**Other Precautions** None known.

**Environmental Exposure Controls** Do not allow material to contaminate ground water system.

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

**Physical State:** Powder
**Color** White to off white
**Odor:** Odorless
**Odor Threshold:** No information available

| Property | Values | Remarks/ - Method |
|---|---|---|
| **pH:** | No data available | |
| **Freezing Point / Range** | -8 °C | |
| **Melting Point / Range** | No data available | |
| **Pour Point / Range** | No data available | |
| **Boiling Point / Range** | No data available | |
| **Flash Point** | No data available | |
| **Evaporation rate** | No data available | |
| **Vapor Pressure** | No data available | |
| **Vapor Density** | No data available | |
| **Specific Gravity** | 1.22 | |
| **Water Solubility** | Soluble in water | |
| **Solubility in other solvents** | No data available | |
| **Partition coefficient: n-octanol/water** | No data available | |
| **Autoignition Temperature** | No data available | |
| **Decomposition Temperature** | No data available | |
| **Viscosity** | No data available | |
| **Explosive Properties** | No information available | |
| **Oxidizing Properties** | No information available | |

**9.2. Other information**

| | |
|---|---|
| **Molecular Weight** | > 600 |
| **VOC Content (%)** | No data available |

## 10. Stability and Reactivity

**10.1. Reactivity**
Not expected to be reactive.
**10.2. Chemical stability**
Stable
**10.3. Possibility of hazardous reactions**
Will Not Occur
**10.4. Conditions to avoid**
None anticipated
**10.5. Incompatible materials**
None known.
**10.6. Hazardous decomposition products**
Oxides of nitrogen. Carbon monoxide and carbon dioxide. Oxides of sulfur.

## 11. Toxicological Information

**Information on routes of exposure**
**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure**
**Most Important Symptoms/Effects**
No significant hazards expected.

**Toxicology data for the components**

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No data available | No data available | No data available |

**Immediate, delayed and chronic health effects from exposure**

**Inhalation** None known.

**Eye Contact** May cause mechanical irritation to eye.

**Skin Contact** Not irritating to skin in rabbits.

**Ingestion** No adverse health effects are expected from swallowing.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

## 12. Ecological Information

**Ecotoxicity**

**Substance Ecotoxicity Data**

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|---|---|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available | No information available | No information available | No information available |

**12.2. Persistence and degradability**

Not readily biodegradable

| Substances | CAS Number | Persistence and Degradability |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.3. Bioaccumulative potential**

Does not bioaccumulate.

| Substances | CAS Number | Bioaccumulation |
|---|---|---|
| Contains no hazardous substances in | NA | No information available |

| | | |
|---|---|---|
| concentrations above cut-off values according to the competent authority | | |

### 12.4. Mobility in soil

| Substances | CAS Number | Mobility |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

### 12.6. Other adverse effects

**Endocrine Disruptor Information**
This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**
Bury in a licensed landfill according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

**Disposal of any contaminated packaging**
Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

**Environmental regulations**
Not applicable

## 14. Transport Information

**Transportation Information**

**Australia ADG**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IMDG/IMO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IATA/ICAO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
Not applicable

**Special precautions during transport**
None

**HazChem Code**
None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product**

**International Inventories**

| | |
|---|---|
| **Australian AICS Inventory** | All components are listed on the AIIC or are subject to a relevant exemption, permit, or assessment certificate. |
| **New Zealand Inventory of Chemicals** | All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate. |
| **US TSCA Inventory** | All components listed on inventory or are exempt. |
| **Canadian Domestic Substances List (DSL)** | All components listed on inventory or are exempt. |

**Poisons Schedule number**
None Allocated

**International Agreements**

| | |
|---|---|
| **Montreal Protocol - Ozone Depleting Substances:** | Does not apply. |
| **Stockholm Convention - Persistent Organic Pollutants:** | Does not apply |
| **Rotterdam Convention - Prior Informed Consent:** | Does not apply. |
| **Basel Convention - Hazardous Waste:** | Does not apply. |

## 16. Other information

**Date of preparation or review**

**Revision Date:** 01-Feb-2021

**Revision Note**
SDS sections updated:
2

**Full text of H-Statements referred to under sections 2 and 3**
None

**Additional information** For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abreviations or acronyms used**
bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NOEC – No Observed Effect Concentration
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
vPvB – very Persistent and very Bioaccumulative
h - hour
$mg/m^3$ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury

w/w - weight/weight
d - day

**Key literature references and sources for data**
www.ChemADVISOR.com/
NZ CCID

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**End of Safety Data Sheet**

HALLIBURTON

# SAFETY DATA SHEET

# SCR-100L

**Revision Date:** 28-Jan-2020 **Revision Number:** 43

## 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**1.1. Product Identifier**

**Product Name** SCR-100L

**Other means of Identification**

**Synonyms** None

**Hazardous Material Number:** HM001254

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Retarder

**Uses advised against** No information available

**Supplier's name, address and phone number**

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.
15 Marriott Road, Jandakot, WA 6164
Australia
ACN Number: 009 000 775
Telephone Number: + 61 1 800 686 951
Fax Number: 61 (08) 9455 5300

**E-mail Address** fdunexchem@halliburton.com

**Emergency phone number**

+ 61 1 800 686 951
Global Incident Response Access Code: 334305
Contract Number: 14012

**Australian Poisons Information Centre**
24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

## 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**Classification of the hazardous chemical**

Not classified

**Label elements, including precautionary statements**

**Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None
**Response** None
**Storage** None
**Disposal** None

**Contains**

| **Substances** | **CAS Number** |
|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA |

**Other hazards which do not result in classification**
This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

## 3. Composition/information on Ingredients

| Substances | CAS Number | PERCENT (w/w) | GHS Classification - Australia |
|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | 60 - 100% | Not classified |

## 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

**Skin** Wash with soap and water. Get medical attention if irritation persists.

**Ingestion** Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Symptoms caused by exposure**
No significant hazards expected.

**Medical Attention and Special Treatment**
**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

**Suitable extinguishing equipment**
**Suitable Extinguishing Media**
All standard fire fighting media
**Extinguishing media which must not be used for safety reasons**
None known.

**Specific hazards arising from the chemical**
**Special exposure hazards in a fire**
Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**
Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

**6.2. Environmental precautions**
Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**
Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

## 7. Handling and storage

**7.1. Precautions for safe handling**
**Handling Precautions**
Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.
**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**
**Storage Information**
Store away from oxidizers. Store in a dry location. Keep container closed when not in use.
**Other Guidelines**
No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring**
**Exposure Limits**

| Substances | CAS Number | Australia NOHSC | ACGIH TLV-TWA |
|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | Not applicable | Not applicable |

**Appropriate engineering controls**
**Engineering Controls** Use in a well ventilated area.

**Personal protective equipment (PPE)**
**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
**Respiratory Protection** Not normally needed. But if significant exposures are possible then the following respirator is recommended:
Dust/mist respirator. (N95, P2/P3)
**Hand Protection** Normal work gloves.
**Skin Protection** Normal work coveralls.
**Eye Protection** Wear safety glasses or goggles to protect against exposure.
**Other Precautions** None known.
**Environmental Exposure Controls** Do not allow material to contaminate ground water system.

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical State:** | Liquid | **Color** | Blue |
| **Odor:** | Odorless | **Odor Threshold:** | No information available |

| Property<br>Remarks/ - Method | Values |
|---|---|
| **pH:** | 3 - 4 (28%) |
| **Freezing Point / Range** | -4 °C |
| **Melting Point / Range** | No data available |
| **Pour Point / Range** | No data available |
| **Boiling Point / Range** | No data available |
| **Flash Point** | > 93 °C / > 200 °F (PMCC) |
| **Evaporation rate** | No data available |
| **Vapor Pressure** | No data available |
| **Vapor Density** | No data available |
| **Specific Gravity** | 1.16 |
| **Water Solubility** | Soluble in water |
| **Solubility in other solvents** | No data available |
| **Partition coefficient: n-octanol/water** | No data available |
| **Autoignition Temperature** | 520 °C |
| **Decomposition Temperature** | No data available |
| **Viscosity** | 15-30 cP @ 25°C |
| **Explosive Properties** | No information available |
| **Oxidizing Properties** | No information available |

**9.2. Other information**

| | |
|---|---|
| **VOC Content (%)** | ~60% |
| **Liquid Density** | 9.66 |

## 10. Stability and Reactivity

**10.1. Reactivity**
Not expected to be reactive.
**10.2. Chemical stability**
Stable
**10.3. Possibility of hazardous reactions**
Will Not Occur
**10.4. Conditions to avoid**
None anticipated
**10.5. Incompatible materials**
Strong oxidizers.
**10.6. Hazardous decomposition products**
Oxides of nitrogen. Oxides of sulfur. Carbon monoxide and carbon dioxide.

## 11. Toxicological Information

**Information on routes of exposure**
**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure**
**Most Important Symptoms/Effects**
No significant hazards expected.

**Toxicology data for the components**

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according | NA | No data available | No data available | No data available |

| | | | | |
|---|---|---|---|---|
| to the competent authority | | | | |

**Immediate, delayed and chronic health effects from exposure**

**Inhalation** May cause mild respiratory irritation.
**Eye Contact** May cause mechanical irritation to eye.
**Skin Contact** None known.
**Ingestion** Irritation of the mouth, throat, and stomach.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**
No data available

**Interactive effects**
Skin disorders.

**Data limitations**
No data available

## 12. Ecological Information

**Ecotoxicity**

**Substance Ecotoxicity Data**

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|---|---|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available | No information available | No information available | No information available |

**12.2. Persistence and degradability**

| Substances | CAS Number | Persistence and Degradability |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.3. Bioaccumulative potential**

| Substances | CAS Number | Bioaccumulation |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.4. Mobility in soil**

| Substances | CAS Number | Mobility |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.6. Other adverse effects**

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**

Bury in a licensed landfill or burn in an approved incinerator according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

**Environmental regulations**

Not applicable

## 14. Transport Information

**Transportation Information**

**Australia ADG**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IMDG/IMO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IATA/ICAO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**Special precautions during transport**

None

**HazChem Code**

None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product**

**International Inventories**

| | |
|---|---|
| **Australian AICS Inventory** | All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate. |
| **New Zealand Inventory of** | All components are listed on the NZIoC or are subject to a relevant exemption, permit, or |

| | |
|---|---|
| **Chemicals** | assessment certificate. |
| **US TSCA Inventory** | All components listed on inventory or are exempt. |
| **Canadian Domestic Substances List (DSL)** | All components listed on inventory or are exempt. |

**Poisons Schedule number**
None Allocated

**International Agreements**

| | |
|---|---|
| **Montreal Protocol - Ozone Depleting Substances:** | Does not apply. |
| **Stockholm Convention - Persistent Organic Pollutants:** | Does not apply |
| **Rotterdam Convention - Prior Informed Consent:** | Does not apply. |
| **Basel Convention - Hazardous Waste:** | Does not apply. |

## 16. Other information

**Date of preparation or review**

**Revision Date:** 28-Jan-2020

**Revision Note**
SDS sections updated:
2

**Full text of H-Statements referred to under sections 2 and 3**
None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abreviations or acronyms used**
bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NOEC – No Observed Effect Concentration
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
vPvB – very Persistent and very Bioaccumulative
h - hour
$mg/m^3$ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

**Key literature references and sources for data**
www.ChemADVISOR.com/
NZ CCID

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**End of Safety Data Sheet**

HALLIBURTON

# SAFETY DATA SHEET

# SA-1015

**Revision Date:** 28-Jan-2020 **Revision Number:** 24

## 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**1.1. Product Identifier**

**Product Name** SA-1015

**Other means of Identification**

**Synonyms** None

**Hazardous Material Number:** HM007221

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Suspending Agent

**Uses advised against** No information available

**Supplier's name, address and phone number**

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.
15 Marriott Road, Jandakot, WA 6164
Australia
ACN Number: 009 000 775
Telephone Number: + 61 1 800 686 951
Fax Number: 61 (08) 9455 5300

**E-mail Address** fdunexchem@halliburton.com

**Emergency phone number**

+ 61 1 800 686 951
Global Incident Response Access Code: 334305
Contract Number: 14012

**Australian Poisons Information Centre**
24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

## 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**Classification of the hazardous chemical**

Not classified

**Label elements, including precautionary statements**

**Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None
**Response** None
**Storage** None
**Disposal** None

**Contains**

| **Substances** | **CAS Number** |
|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA |

**Other hazards which do not result in classification**
Dust can form an explosive mixture in air
This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).
This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

## 3. Composition/information on Ingredients

| Substances | CAS Number | PERCENT (w/w) | GHS Classification - Australia |
|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | 60 - 100% | Not classified |

## 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** Move person to fresh air.
**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
**Skin** Wash with soap and water. Get medical attention if irritation persists.
**Ingestion** Under normal conditions, first aid procedures are not required.

**Symptoms caused by exposure**
No significant hazards expected.

**Medical Attention and Special Treatment**
**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

**Suitable extinguishing equipment**
**Suitable Extinguishing Media**
Water fog, carbon dioxide, foam, dry chemical.
**Extinguishing media which must not be used for safety reasons**
None known.

**Specific hazards arising from the chemical**
**Special exposure hazards in a fire**
Decomposition in fire may produce harmful gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**
Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Use appropriate protective equipment. Avoid creating and breathing dust. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

**6.2. Environmental precautions**
Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**
Isolate spill and stop leak where safe. Scoop up and remove. Do NOT spread spilled product with water.

## 7. Handling and storage

**7.1. Precautions for safe handling**
**Handling Precautions**
Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Avoid dust accumulations. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment. Slippery when wet.
**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**
**Storage Information**
Store away from oxidizers. Keep container closed when not in use. Store in a dry location.
**Other Guidelines**
No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring**
**Exposure Limits**

| Substances | CAS Number | Australia NOHSC | ACGIH TLV-TWA |
|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | Not applicable | Not applicable |

**Appropriate engineering controls**
**Engineering Controls** Use in a well ventilated area.

**Personal protective equipment (PPE)**
**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
**Respiratory Protection** If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.
**Hand Protection** Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace.
**Skin Protection** Wear impervious protective clothing, including boots, gloves, lab coat, apron, rain jacket, pants or coverall, as appropriate, to prevent skin contact.
**Eye Protection** Wear safety glasses or goggles to protect against exposure.
**Other Precautions** None known.
**Environmental Exposure Controls** Do not allow material to contaminate ground water system.

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

**Physical State:** Powder
**Color** White to tan
**Odor:** Slight
**Odor Threshold:** No information available

| Property<br>Remarks/ - Method | Values |
|---|---|
| **pH:** | 7 (1%) |
| **Freezing Point / Range** | No data available |
| **Melting Point / Range** | No data available |
| **Pour Point / Range** | No data available |
| **Boiling Point / Range** | No data available |
| **Flash Point** | > 93 °C / > 200 °F (PMCC) |
| **Evaporation rate** | No data available |
| **Vapor Pressure** | No data available |
| **Vapor Density** | No data available |
| **Specific Gravity** | No data available |
| **Water Solubility** | Forms gel |
| **Solubility in other solvents** | No data available |
| **Partition coefficient: n-octanol/water** | No data available |
| **Autoignition Temperature** | 204 °C / 400 °F |
| **Decomposition Temperature** | No data available |
| **Viscosity** | No data available |
| **Explosive Properties** | No information available |
| **Oxidizing Properties** | No information available |

**9.2. Other information**

**VOC Content (%)** No data available

## 10. Stability and Reactivity

**10.1. Reactivity**
Not expected to be reactive.
**10.2. Chemical stability**
Stable
**10.3. Possibility of hazardous reactions**
Will Not Occur
**10.4. Conditions to avoid**
Keep away from heat, sparks and flame.
**10.5. Incompatible materials**
Strong oxidizers.
**10.6. Hazardous decomposition products**
Carbon monoxide and carbon dioxide.

## 11. Toxicological Information

**Information on routes of exposure**
**Principle Route of Exposure** Eye and skin contact.

**Symptoms related to exposure**
**Most Important Symptoms/Effects**
No significant hazards expected.

**Toxicology data for the components**

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|---|
| Contains no hazardous | NA | No data available | No data available | No data available |

| | | | | |
|---|---|---|---|---|
| substances in concentrations above cut-off values according to the competent authority | | | | |

**Immediate, delayed and chronic health effects from exposure**

**Inhalation** May cause mild respiratory irritation.
**Eye Contact** May cause mechanical irritation to eye.
**Skin Contact** Not irritating to skin in rabbits.
**Ingestion** May cause abdominal pain, vomiting, nausea, and diarrhea.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**
No data available

**Interactive effects**
None known.

**Data limitations**
No data available

## 12. Ecological Information

**Ecotoxicity**

**Substance Ecotoxicity Data**

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|---|---|---|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available | No information available | No information available | No information available |

**12.2. Persistence and degradability**

| Substances | CAS Number | Persistence and Degradability |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

**12.3. Bioaccumulative potential**

| Substances | CAS Number | Bioaccumulation |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

### 12.4. Mobility in soil

| Substances | CAS Number | Mobility |
|---|---|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

### 12.6. Other adverse effects

**Endocrine Disruptor Information**
This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**
Follow all applicable community, national or regional regulations regarding waste management methods.
Substance should NOT be deposited into a sewage facility.

**Disposal of any contaminated packaging**
Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

**Environmental regulations**
Not applicable

## 14. Transport Information

**Transportation Information**

**Australia ADG**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IMDG/IMO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IATA/ICAO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**Special precautions during transport**
None

**HazChem Code**
None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product**

**International Inventories**

| | |
|---|---|
| **Australian AICS Inventory** | All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate. |
| **New Zealand Inventory of Chemicals** | All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate. |
| **US TSCA Inventory** | All components listed on inventory or are exempt. |
| **Canadian Domestic Substances List (DSL)** | All components listed on inventory or are exempt. |

**Poisons Schedule number**
None Allocated

**International Agreements**

| | |
|---|---|
| **Montreal Protocol - Ozone Depleting Substances:** | Does not apply. |
| **Stockholm Convention - Persistent Organic Pollutants:** | Does not apply |
| **Rotterdam Convention - Prior Informed Consent:** | Does not apply. |
| **Basel Convention - Hazardous Waste:** | Does not apply. |

## 16. Other information

**Date of preparation or review**

**Revision Date:** 28-Jan-2020

**Revision Note**
SDS sections updated:
2

**Full text of H-Statements referred to under sections 2 and 3**
None

**Additional information** For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abreviations or acronyms used**
bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NOEC – No Observed Effect Concentration
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
vPvB – very Persistent and very Bioaccumulative
h - hour
$mg/m^3$ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

**Key literature references and sources for data**

www.ChemADVISOR.com/
NZ CCID

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**End of Safety Data Sheet**

HALLIBURTON

# SAFETY DATA SHEET

# HR-25L

**Revision Date:** 01-Feb-2021 **Revision Number:** 41

## 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**1.1. Product Identifier**

**Product Name** HR-25L

**Other means of Identification**

**Synonyms** None

**Hazardous Material Number:** HM000893

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Cement Retarder

**Uses advised against** No information available

**Supplier's name, address and phone number**

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.
15 Marriott Road, Jandakot, WA 6164
Australia
ACN Number: 009 000 775
Telephone Number: + 61 1 800 686 951
Fax Number: 61 (08) 9455 5300

**E-mail Address** fdunexchem@halliburton.com

**Emergency phone number**

+ 61 1 800 686 951
Global Incident Response Access Code: 334305
Contract Number: 14012

**Australian Poisons Information Centre**
24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

## 2. Hazard Identification

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

**Classification of the hazardous chemical**

| | |
|---|---|
| Serious Eye Damage/Irritation | Category 1 - H318 |
| Acute Aquatic Toxicity | Category 3 - H402 |

**Label elements, including precautionary statements**

**Hazard Pictograms**

**Signal Word** DANGER

**Hazard Statements:**
H318 - Causes serious eye damage
H402 - Harmful to aquatic life

**Precautionary Statements**

**Prevention**
P273 - Avoid release to the environment
P280 - Wear eye protection/face protection

**Response**
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician

**Storage** None

**Disposal** P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

**Contains**

| **Substances** | **CAS Number** |
|---|---|
| Tartaric acid | 87-69-4 |

**Other hazards which do not result in classification**
This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

## 3. Composition/information on Ingredients

| Substances | CAS Number | PERCENT (w/w) | GHS Classification - Australia |
|---|---|---|---|
| Tartaric acid | 87-69-4 | 30 - 60% | Eye Corr. 1 (H318)<br>Aquatic Acute 3 (H402) |

## 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention.

**Skin** Wash with soap and water. Get medical attention if irritation persists.

**Ingestion** Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Symptoms caused by exposure**
Causes severe eye irritation which may damage tissue.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**
All standard fire fighting media
**Extinguishing media which must not be used for safety reasons**
None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**
Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**
Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

**6.2. Environmental precautions**
Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**
Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Neutralize to pH of 6-8. Scoop up and remove.

## 7. Handling and storage

**7.1. Precautions for safe handling**

**Handling Precautions**
Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.
**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage Information**
Store away from alkalis. Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use. Product has a shelf life of 60 months.
**Other Guidelines**
No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring**

**Exposure Limits**

| Substances | CAS Number | Australia NOHSC | ACGIH TLV-TWA |
|---|---|---|---|
| Tartaric acid | 87-69-4 | Not applicable | Not applicable |

**Appropriate engineering controls**

**Engineering Controls** Use in a well ventilated area.

**Personal protective equipment (PPE)**

**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an

| | |
|---|---|
| | industrial hygienist or other qualified professional based on the specific application of this product. |
| **Respiratory Protection** | If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Dust/mist respirator. (N95, P2/P3) |
| **Hand Protection** | Impervious rubber gloves. |
| **Skin Protection** | Rubber apron. |
| **Eye Protection** | Chemical goggles; also wear a face shield if splashing hazard exists. |
| **Other Precautions** | Eyewash fountains and safety showers must be easily accessible. |
| **Environmental Exposure Controls** | Do not allow material to contaminate ground water system. |

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical State:** | Liquid | **Color** | Light yellow-green |
| **Odor:** | Odorless | **Odor Threshold:** | No information available |

| Property<br>Remarks/ - Method | Values |
|---|---|
| **pH:** | 1.7 |
| **Freezing Point / Range** | No data available |
| **Melting Point / Range** | No data available |
| **Pour Point / Range** | No data available |
| **Boiling Point / Range** | 103 °C / 219 °F |
| **Flash Point** | No data available |
| **Evaporation rate** | No data available |
| **Vapor Pressure** | No data available |
| **Vapor Density** | No data available |
| **Specific Gravity** | 1.2 |
| **Water Solubility** | Soluble in water |
| **Solubility in other solvents** | No data available |
| **Partition coefficient: n-octanol/water** | No data available |
| **Autoignition Temperature** | No data available |
| **Decomposition Temperature** | No data available |
| **Viscosity** | No data available |
| **Explosive Properties** | No information available |
| **Oxidizing Properties** | No information available |

**9.2. Other information**

**VOC Content (%)** No data available

## 10. Stability and Reactivity

**10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

None anticipated

**10.5. Incompatible materials**

Strong oxidizers. Strong alkalis.

**10.6. Hazardous decomposition products**

Carbon monoxide and carbon dioxide.

## 11. Toxicological Information

**Information on routes of exposure**

**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure**

**Most Important Symptoms/Effects**

Causes severe eye irritation which may damage tissue.

## Toxicology data for the components

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|---|
| Tartaric acid | 87-69-4 | 2000 - 5000 mg/kg (Rat) | > 2000 mg/kg (Rat) | No data available |

**Immediate, delayed and chronic health effects from exposure**

**Inhalation** May cause mild respiratory irritation.

**Eye Contact** Causes severe eye irritation which may damage tissue.

**Skin Contact** Not irritating to skin in rabbits.

**Ingestion** Irritation of the mouth, throat, and stomach.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

Skin disorders.

**Data limitations**

No data available

| Substances | CAS Number | Skin corrosion/irritation |
|---|---|---|
| Tartaric acid | 87-69-4 | Non-irritating to the skin (Rabbit) (in vitro) |

| Substances | CAS Number | Serious eye damage/irritation |
|---|---|---|
| Tartaric acid | 87-69-4 | Causes severe eye irritation (Rabbit) |

| Substances | CAS Number | Skin Sensitization |
|---|---|---|
| Tartaric acid | 87-69-4 | Did not cause sensitization on laboratory animals (mouse) |

| Substances | CAS Number | Respiratory Sensitization |
|---|---|---|
| Tartaric acid | 87-69-4 | No information available |

| Substances | CAS Number | Mutagenic Effects |
|---|---|---|
| Tartaric acid | 87-69-4 | In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. |

| Substances | CAS Number | Carcinogenic Effects |
|---|---|---|
| Tartaric acid | 87-69-4 | Did not show carcinogenic effects in animal experiments (Rat) (similar substances) |

| Substances | CAS Number | Reproductive toxicity |
|---|---|---|
| Tartaric acid | 87-69-4 | Did not show teratogenic effects in animal experiments. |

| Substances | CAS Number | STOT - single exposure |
|---|---|---|
| Tartaric acid | 87-69-4 | No significant toxicity observed in animal studies at concentration requiring classification. |

| Substances | CAS Number | STOT - repeated exposure |
|---|---|---|
| Tartaric acid | 87-69-4 | No significant toxicity observed in animal studies at concentration requiring classification. |

| Substances | CAS Number | Aspiration hazard |
|---|---|---|
| Tartaric acid | 87-69-4 | Not applicable |

## 12. Ecological Information

**Ecotoxicity**

**Substance Ecotoxicity Data**

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|---|---|---|---|---|---|
| Tartaric acid | 87-69-4 | E(B)C50 2575.2 mg/L (Skeletonema costatum) E(R)C50 1198 mg/L (Skeletonema costatum) EC50 791.25 mg/L (Skeletonema costatum) EC50 (72h) 51.4043 mg/L (Pseudokirchnerella subcapitata) | LC50 250 mg/L (Scophthalmus maximus) LC50 (96h) > 100 mg/L (Danio rerio) | EC50 (3h) > 1000 mg/L (Activated sludge) | TLM96 330-1000 ppm (Crangon crangon) EC50 46.04 - 165.37 mg/L (Ceriodaphnia dubia) LC50 3753.85 (Acartia tonsa) EC50 (48h) 93.313 mg/L (Daphnia magna) |

**12.2. Persistence and degradability**

Readily biodegradable

| Substances | CAS Number | Persistence and Degradability |
|---|---|---|
| Tartaric acid | 87-69-4 | Readily biodegradable (85% @ 28d) |

**12.3. Bioaccumulative potential**

Does not bioaccumulate.

| Substances | CAS Number | Bioaccumulation |
|---|---|---|
| Tartaric acid | 87-69-4 | -1 |

**12.4. Mobility in soil**

| Substances | CAS Number | Mobility |
|---|---|---|
| Tartaric acid | 87-69-4 | No information available |

**12.6. Other adverse effects**

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**

Follow all applicable community, national or regional regulations regarding waste management methods.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

**Environmental regulations**

Not applicable

## 14. Transport Information

**Transportation Information**

**Australia ADG**

**UN Number** Not restricted
**UN proper shipping name:** Not restricted
**Transport Hazard Class(es):** Not applicable
**Packing Group:** Not applicable
**Environmental Hazards:** Not applicable

**IMDG/IMO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**IATA/ICAO**

| | |
|---|---|
| **UN Number** | Not restricted |
| **UN proper shipping name:** | Not restricted |
| **Transport Hazard Class(es):** | Not applicable |
| **Packing Group:** | Not applicable |
| **Environmental Hazards:** | Not applicable |

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
Not applicable

**Special precautions during transport**
None

**HazChem Code**
None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product**

**International Inventories**

| | |
|---|---|
| **Australian AICS Inventory** | All components are listed on the AIIC or are subject to a relevant exemption, permit, or assessment certificate. |
| **New Zealand Inventory of Chemicals** | All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate. |
| **US TSCA Inventory** | All components listed on inventory or are exempt. |
| **Canadian Domestic Substances List (DSL)** | All components listed on inventory or are exempt. |

**Poisons Schedule number**
None Allocated

**International Agreements**

| | |
|---|---|
| **Montreal Protocol - Ozone Depleting Substances:** | Does not apply. |
| **Stockholm Convention - Persistent Organic Pollutants:** | Does not apply |
| **Rotterdam Convention - Prior Informed Consent:** | Does not apply. |
| **Basel Convention - Hazardous Waste:** | Does not apply. |

## 16. Other information

**Date of preparation or review**

**Revision Date:** 01-Feb-2021

**Revision Note**
SDS sections updated:
15

**Full text of H-Statements referred to under sections 2 and 3**
H318 - Causes serious eye damage
H402 - Harmful to aquatic life

**Additional information** For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abreviations or acronyms used**

bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NOEC – No Observed Effect Concentration
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
vPvB – very Persistent and very Bioaccumulative
h - hour
$mg/m^3$ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

**Key literature references and sources for data**

www.ChemADVISOR.com/
NZ CCID

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**

6. **SDS - NEWPARK**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **BARITE POWDER**

**Synonyms** BARITE (API 13A SECTION 7) ● NEWBAR ● RHEOBAR

### 1.2 Uses and uses advised against

**Uses** DRILLING FLUID ADDITIVE ● WEIGHTING AGENT

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| BARIUM SULPHATE | 7727-43-7 | 231-784-4 | >89% |
| QUARTZ (CRYSTALLINE SILICA) | 14808-60-7 | 238-878-4 | <3% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).

**First aid facilities** Eye wash facilities should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

Repeated exposure to crystalline silica may result in lung fibrosis (silicosis). Principal symptoms of silicosis are coughing and breathlessness. Crystalline silica is classified as carcinogenic to humans (IARC Group 1).

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve toxic gases (sulphur oxides) when heated to decomposition.

### 5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code

None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

### 7.3 Specific end uses

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Barium sulphate | SWA [AUS] | -- | 10 | -- | -- |
| Barium sulphate (inhalable) | SWA [Proposed] | -- | 4 | -- | -- |
| Barium sulphate (respirable) | SWA [Proposed] | -- | 1.35 | -- | -- |
| Quartz (respirable dust) | SWA [AUS] | -- | 0.1 | -- | -- |
| Quartz (respirable dust) | SWA [Proposed] | -- | 0.05 | -- | -- |
| Quartz (respirable dust) | WorkSafe VIC | -- | 0.05 | -- | -- |

**Biological limits** No Biological Limit Value allocated.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PPE**

**Eye / Face** Wear dust-proof goggles.

**Hands** Wear PVC or rubber gloves.

**Body** When using large quantities or where heavy contamination is likely, wear coveralls.

**Respiratory** Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | OFF-WHITE POWDER |
| **Odour** | ODOURLESS |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | NOT RELEVANT |
| **Melting point** | > 1300°C |
| **Evaporation rate** | NOT RELEVANT |
| **pH** | 8.2 (20% Slurry) |
| **Vapour density** | NOT RELEVANT |
| **Specific gravity** | 4.20 |
| **Solubility (water)** | INSOLUBLE |
| **Vapour pressure** | NOT RELEVANT |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT RELEVANT |
| **Autoignition temperature** | NOT RELEVANT |
| **Decomposition temperature** | NOT RELEVANT |
| **Viscosity** | NOT RELEVANT |
| **Explosive properties** | NOT EXPLOSIVE |
| **Oxidising properties** | NON OXIDISING |
| **Odour threshold** | NOT RELEVANT |

### 9.2 Other information

**Bulk density** ~1.5 kg/L

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity
Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability
Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions
Polymerization is not expected to occur.

### 10.4 Conditions to avoid
Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials
Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), alkalis (e.g. sodium hydroxide), heat and ignition sources.

### 10.6 Hazardous decomposition products
May evolve toxic gases (sulphur oxides) when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** Based on available data, the classification criteria are not met.

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| BARIUM SULPHATE | > 5000 mg/kg (rat) | > 2000 mg/kg (rat) | -- |

**Skin** Contact may result in irritation, redness, pain and rash.

**Eye** Contact may result in irritation, lacrimation, pain, redness and blurring or dimness of vision.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Not classified as a mutagen.

**Carcinogenicity** Crystalline silica is classified as carcinogenic to humans (IARC Group 1). However, there is a body of evidence supporting the fact that increased cancer risk would be limited to people already suffering from silicosis.

**Reproductive** Not classified as a reproductive toxin.

**STOT - single exposure** Over exposure may result in irritation of the nose and throat, coughing, dizziness, drowsiness and headache.

**STOT - repeated exposure** Repeated exposure to respirable silica may result in pulmonary fibrosis (silicosis). Silicosis is a fibronodular lung disease caused by deposition in the lungs of fine respirable particles of crystalline silica. Principal symptoms of silicosis are coughing and breathlessness.

**Aspiration** Not classified as causing aspiration.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity
Fish Toxicity: LC50 (Rainbow trout) > 7500 ppm/96hrs; LC50 (Fresh Water Trout) > 21,000 ppm/96hrs; LC50 (Salt Water Stickel Back) > 56,000 ppm/96hrs.

### 12.2 Persistence and degradability
Barium sulphate (major ingredient of barite (60-100%)) is insoluble in water and not biodegradable.

### 12.3 Bioaccumulative potential
Not expected to bioaccumulate.

### 12.4 Mobility in soil
No information provided.

### 12.5 Other adverse effects
This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

### 14.5 Environmental hazards

No information provided.

### 14.6 Special precautions for user

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **BENTONITE POWDER**

**Synonyms** AVAGEL ● BENTONIL HR ● HISWELL ● MAXIGEL ● NATURALGEL ● NEWGEL ● RHEOBEN ● RHEOBEN NT ● SODIUM BENTONITE ● SODIUM MONTMORILLONITE

### 1.2 Uses and uses advised against

**Uses** DRILLING FLUID

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**Physical Hazards**

Not classified as a Physical Hazard

**Health Hazards**

Specific Target Organ Toxicity (Repeated Exposure): Category 2

**Environmental Hazards**

Not classified as an Environmental Hazard

### 2.2 GHS Label elements

**Signal word** **WARNING**

**Pictograms**

**Hazard statements**

H373 May cause damage to organs through prolonged or repeated exposure.

**Prevention statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

**Response statements**

P314 Get medical advice/attention if you feel unwell.

**Storage statements**

None allocated.

**Disposal statements**

P501 Dispose of contents/container in accordance with relevant regulations.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| BENTONITE | 1302-78-9 | 215-108-5 | 90 to 98% |
| QUARTZ (CRYSTALLINE SILICA) | 14808-60-7 | 238-878-4 | 2 to 10% |
| SODA ASH | - | - | 2 to 4% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Due to product form and application, ingestion is considered unlikely.

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

Repeated exposure to crystalline silica may result in lung fibrosis (silicosis). Principal symptoms of silicosis are coughing and breathlessness. Crystalline silica is classified as carcinogenic to humans (IARC Group 1).

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve toxic gases if strongly heated.

### 5.3 Advice for firefighters

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code

None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Moisten with water to prevent a dust hazard and place in sealable containers for disposal.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure packaging are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Quartz (respirable dust) | SWA [AUS] | -- | 0.05 | -- | -- |
| Quartz (respirable dust) | WorkSafe VIC | -- | 0.05 | -- | -- |

**Biological limits** No Biological Limit Value allocated.

### 8.2 Exposure controls
**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | BROWN POWDER |
| **Odour** | SLIGHT ODOUR |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | 1100°C to 1200°C (Fusion Point) |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | NOT AVAILABLE |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 2.7 |
| **Solubility (water)** | INSOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT EXPLOSIVE |
| **Oxidising properties** | NON OXIDISING |
| **Odour threshold** | NOT AVAILABLE |

### 9.2 Other information

| | |
|---|---|
| **Bulk density** | ~ 0.9 kg/L |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with acids (e.g. nitric acid) and alkalis (e.g. sodium hydroxide).

### 10.6 Hazardous decomposition products

May evolve toxic gases if heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity**

Toxicity Data available for the ingredients:
QUARTZ (SILICA CRYSTALLINE) (14808-60-7):
LCLo (inhalation) = 300 ug/m³/10 years (human)
TCLo (inhalation) = 16 000 000 particles/ft3/8 hours/17.9 years (human-fibrosis)
BENTONITE (1302-78-9):
LD50 (intravenous) = 35 mg/kg (rat)
LD50 (oral): > 2000mg/kg (rat)
LDLo (intravenous) = 10 mg/kg (dog)
Inhalation LC 50: > 5.27 mg/L, 4hr (rat)

**Additional ingredient toxicity values:**

BENTONITE (1302-78-9)

| | |
|---|---|
| LD50 (intravenous) | 35 mg/kg (rat) |
| LDLo (intravenous) | 10 mg/kg (dog) |

**Skin**

Not classified as a skin irritant. Contact may result in mild irritation and dermatitis.

**Eye**

Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.

**Sensitisation**

Not classified as causing skin or respiratory sensitisation.

**Mutagenicity**

Insufficient data available to classify as a mutagen.

**Carcinogenicity**

This product contains crystalline silica which is classified as carcinogenic to humans (IARC Group 1). However, there is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis. Therefore, preventing the onset of silicosis will also reduce the cancer risk.

**Reproductive**

Insufficient data available to classify as a reproductive toxin.

**STOT - single exposure**

Not classified as causing organ damage from single exposure.

**STOT - repeated exposure**

Repeated exposure to respirable silica may result in pulmonary fibrosis (silicosis). Silicosis is a fibronodular lung disease caused by deposition in the lungs of fine respirable particles of crystalline silica. Principal symptoms of silicosis are coughing and breathlessness.

**Aspiration**

Not expected to present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Bentonite (1302-78-9):
EC50 Daphnia > 100 mg/l, 48 hours
EC50 Freshwater algae > 100 mg/l, 72 hours
LC50 Freshwater fish = 16000 mg/l, 96 hours
LC50 Marine water fish = 2800 - 3200 mg/l, 24 hours
EC50 Coon stripe shrimp (Pandalus danae) = 24.8 mg/l, 96 hours
EC50 Dungeness or edible crab (Cancer magister) = 81.6 mg/l, 96 hours
LC50 Rainbow trout, donaldson trout (Oncorhynchus mykiss) = 19000 mg/l, 96 hours

### 12.2 Persistence and degradability

Not relevant for inorganic substances.

### 12.3 Bioaccumulative potential

Will not bioaccumulate.

### 12.4 Mobility in soil

Low water solubility, expected to sink and migrate into the sediment. Expected to partition to sediment and wastewater solids.

### 12.5 Other adverse effects

The main component/s of this product are not anticipated to cause any adverse effects to plants or animals.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Reuse where possible. No special precautions are normally required when handling this product.

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

### 14.5 Environmental hazards

No information provided.

### 14.6 Special precautions for user

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**
All components are listed on AIIC, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **POTASSIUM CHLORIDE**

**Synonyms** KCL ● MURIATE OF POTASH ● POTASH ● SYLVITE

### 1.2 Uses and uses advised against

**Uses** DRILLING FLUID ADDITIVE ● FERTILISER ● INHIBITOR

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| POTASSIUM CHLORIDE | 7447-40-7 | 231-211-8 | >97% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

Adverse effects not expected from this product under normal conditions of use.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve toxic gases (potassium oxides, chlorides) when heated to decomposition.

### 5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls
**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PPE**

| | |
|---|---|
| **Eye / Face** | At high dust levels, wear dust-proof goggles. |
| **Hands** | With prolonged use, wear PVC or rubber or cotton gloves. |
| **Body** | With prolonged use, wear coveralls. |
| **Respiratory** | At high dust levels, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | WHITE SOLID |
| **Odour** | ODOURLESS |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | 1413°C |
| **Melting point** | 773°C |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | NOT AVAILABLE |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 2.0 |
| **Solubility (water)** | 340 g/L @ 20°C |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization will not occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Potassium chloride is not in general strongly reactive. Violent reaction with BrF3 and with a mixture of sulfuric acid potassium permanganate mixture (NTP, 1992). Reacts with concentrated sulfuric acid to generate fumes of hydrogen chloride. Incompatible with oxidising agents.

### 10.6 Hazardous decomposition products

May evolve toxic gases (potassium oxides, chlorides) when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** May be harmful if swallowed in large quantities. Additional toxicity data for potassium chloride:
LD50 (Intraperitoneal): 620 mg/kg (mouse)
LD50 (Intravenous): 117 mg/kg (mouse)
LDLo (Ingestion): 20 mg/kg (man)
LDLo (Intraperitoneal): 900 mg/kg (guinea pig)
LDLo (Intravenous): 77 mg/kg (guinea pig)

LDLo (Subcutaneous): 2120 mg/kg (frog)
TDLo (Ingestion): 60 mg/kg/days (woman)

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| POTASSIUM CHLORIDE | 2600 mg/kg (rat) | -- | -- |

**Skin** Not classified as a skin irritant. Contact may result in mild irritation and rash.

**Eye** Contact may cause discomfort, lacrimation and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** No evidence of mutagenic effects.

**Carcinogenicity** No evidence of carcinogenic effects.

**Reproductive** No relevant or reliable studies were identified.

**STOT - single exposure** Acute potassium poisoning via ingestion is rare as a large single dose usually induces vomiting, and potassium is rapidly excreted by the body, however this product does have the potential to cause cardiovascular disorders.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** Not relevant.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

In short-term acute toxicity tests with fish, daphnia and algae the following results were found (lowest test result values): Ictalurus punctulus 48h-LC50 = 720 mg/l; Daphnia magna: 48h-LC50 = 177 mg/l; Nitzschia linearis: 120 h-EC50 = 1337 mg/l. A chronic reproductive test with the invertebrate Daphnia magna gave a LOEC of 101 mg/l. All the studies compiled on the acute and chronic aquatic toxicity were > 100 mg/L. Thus it is concluded that KCl is not hazardous to freshwater organisms. Taking into considerations the background concentrations of KCl in seawater (380 mg/l K+ and 19,000 mg/l Cl-), it is concluded that there is no reason for further investigations of KCl on marine species. The low concern for the environment is supported by the absence of a bioaccumulation potential for the substance.

### 12.2 Persistence and degradability

Biodegradability does not pertain to inorganic substances.

### 12.3 Bioaccumulative potential

Does not bioaccumulate.

### 12.4 Mobility in soil

No impact if small amount is released to the soil.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Collect and place in sealable containers and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **CALCIUM CARBONATE**

**Synonym(s)** ABGRIT ● CIRCAL ● LIMESTONE ● MARBLE ● NEWCARB, AG LIMESTONE, UNICAL 20, UNICAL 40 AND UNICAL C300C ● OMYACAL ● OMYACARB ● RHEOCARB ● STONEDUST

### 1.2 Uses and uses advised against

**Use(s)** DRILLING FLUID ADDITIVE ● WEIGHTING AGENT

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| LIMESTONE (CALCIUM CARBONATE) | 1317-65-3 | 215-279-6 | >96% |
| QUARTZ (CRYSTALLINE SILICA) | 14808-60-7 | 238-878-4 | <1% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed
May cause irritation to the eyes, skin and respiratory system.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve toxic gases if strongly heated.

### 5.3 Advice for firefighters
No fire or explosion hazard exists.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
If spilt, collect and reuse where possible. If reuse is not possible, contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

### 7.3 Specific end use(s)
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Calcium carbonate (Limestone, Marble, Whiting) | SWA (AUS) | -- | 10 | -- | -- |
| Quartz (respirable dust) | SWA (AUS) | -- | 0.1 | -- | -- |

**Biological limits** No Biological Limit Value allocated.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | When using large quantities or where heavy contamination is likely, wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | OFF-WHITE POWDER |
| **Odour** | ODOURLESS |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | 840°C (Decomposes) |
| **Melting point** | 825°C |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 9 |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 2.7 |
| **Solubility (water)** | INSOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization will not occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with acids (e.g. nitric acid), fluorine, aluminium (hot) and ammonium salts. Incompatible with oxidising agents (e.g. hypochlorites).

### 10.6 Hazardous decomposition products

May evolve toxic gases if heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** This product is expected to be of low toxicity. Based on available data, the classification criteria are not met. LD50 (Ingestion) = 6450 mg/kg (rat).

**Information available for the ingredient(s):**

| Ingredient | Oral Toxicity (LD50) | Dermal Toxicity (LD50) | Inhalation Toxicity (LC50) |
|---|---|---|---|
| LIMESTONE (CALCIUM CARBONATE) | > 5000 mg/kg (rat) | -- | -- |

**Skin** Not classified as a skin irritant. Contact may result in mild irritation, redness and rash.

**Eye** Not classified as an eye irritant. However, direct contact may result in mild irritation, lacrimation, pain and redness. Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Not classified as a mutagen. Insufficient data available to classify as a mutagen.

**Carcinogenicity** Insufficient data available to classify as a carcinogen.

**Reproductive** Insufficient data available to classify as a reproductive toxin.

**STOT - single exposure** Not classified as causing organ damage from single exposure.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure. Chronic exposure to respirable silica may result in pulmonary fibrosis (silicosis). However, given the low levels present, over exposure is not anticipated.

**Aspiration** This product does not present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Calcium carbonate occurs naturally in a wide variety of substances including limestone, marble and egg shells. It is not anticipated to cause adverse environmental effects.

### 12.2 Persistence and degradability

Dissolved calcium carbonate dissociates into calcium and carbonate ions. Calcium ions will be assimilated by living organisms in the water and the carbonate will become part of the carbon cycle.

### 12.3 Bioaccumulative potential

This product does not bioaccumulate.

### 12.4 Mobility in soil

Due to its limited solubility, calcium carbonate precipitates and deposits on the sediment.

### 12.5 Other adverse effects

Avoid contamination of drains and waterways.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** None allocated.

**Risk phrases** None allocated.

**Safety phrases** None allocated.

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

EXPOSURE CONTROL: If utilised in a closed system the potential for over exposure is reduced. If not used in a closed system, local exhaust ventilation is recommended to control exposure. Provide eye wash and safety shower in close proximity to points of potential exposure. Where the potential for an inhalation risk exists, an approved respirator may be required. Do not eat, store, consume food, tobacco or drink in areas where product is used.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **SALT**

**Synonyms** BUTCHERS SALT ● FLOSSY SALT ● HALITE ● NACL ● SODIUM CHLORIDE

### 1.2 Uses and uses advised against

**Uses** CHLORIDE SOURCE ● DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| SODIUM CHLORIDE | 7647-14-5 | 231-598-3 | >98% |
| INORGANIC SALT(S) | - | - | <0.8% |
| WATER | 7732-18-5 | 231-791-2 | <0.8% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities should be available.

### 4.2 Most important symptoms and effects, both acute and delayed
Under normal conditions of use, adverse health effects are not anticipated. This product is generally considered to be of low toxicity.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve toxic gases if strongly heated.

### 5.3 Advice for firefighters
Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate fire protection systems.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | TRANSLUCENT TO WHITE GRANULES OR POWDER |
| **Odour** | SLIGHT ODOUR |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | 1413°C |
| **Melting point** | 801°C |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 7 (1 % Solution) |
| **Vapour density** | NOT AVAILABLE |
| **Relative density** | 2.163 |
| **Solubility (water)** | 357 g/L |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials
Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid) and alkalis (e.g. sodium hydroxide).

### 10.6 Hazardous decomposition products
May evolve toxic gases if heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** May be harmful if swallowed in large quantities. Repeated ingestion of excessive amounts of sodium chloride may cause disturbance of body electrolyte and fluid balance.
LC50 (Inhalation): > 42000 mg/m3/1 hour (rat)
LD50 (Ingestion): 3000 mg/kg (rat)
LD50 (Skin): > 10000 mg/kg (rabbit)

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| SODIUM CHLORIDE | 3000 mg/kg (rat) | > 10000 mg/kg (rabbit) | > 42000 mg/m³/1 hour (rat) |

**Additional ingredient toxicity values:**

SODIUM CHLORIDE (7647-14-5)

| | |
|---|---|
| LD50 (intraperitoneal) | 2602 mg/kg (mouse) |
| LD50 (intravenous) | 645 mg/kg (mouse) |
| LD50 (subcutaneous) | 3000 mg/kg (mouse) |
| LDLo (intravenous) | 300 mg/kg (guinea pig) |
| LDLo (oral) | 8000 mg/kg (rabbit) |
| LDLo (subcutaneous) | 2160 mg/kg (guinea pig) |
| TDLo (oral) | 12357 mg/kg (human) |

**Skin** Contact may result in mild irritation and rash.

**Eye** Contact may cause discomfort, lacrimation and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** No evidence of mutagenic effects.

**Carcinogenicity** No evidence of carcinogenic effects.

**Reproductive** No relevant or reliable studies were identified.

**STOT - single exposure** Not classified as causing organ damage from single exposure.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** This product does not present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity
Aquatic Toxicity: LC50 (water flea) is 2122 mg/L/48 hours; LC50 (fathead minnow) is 6.57 g/L/96 hours.

### 12.2 Persistence and degradability
Biodegradability does not pertain to inorganic substances.

### 12.3 Bioaccumulative potential
Not expected to bioaccumulate.

### 12.4 Mobility in soil
No information provided.

### 12.5 Other adverse effects
This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.

## 13. DISPOSAL CONSIDERATIONS

**13.1 Waste treatment methods**

**Waste disposal** Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

**Inventory listings** **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**
All components are listed on AIIC, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **NEWZAN D**

**Synonyms** NEWZAN D ● XANTHAN GUM (BIOPOLYMER) ● XANTHAN GUM (P)

### 1.2 Uses and uses advised against

**Uses** DRILLING FLUID ADDITIVE ● VISCOSITY MODIFIER

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (NEW ZEALAND) LTD**

**Address** PO BOX 6092, Moturoa, New Plymouth, TARANAKI, 4310, NEW ZEALAND

**Telephone** 0204 0234 734

**Fax** +61 8941 08299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 0800 243 622 (New Zealand); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NON HAZARDOUS ACCORDING TO NZ ENVIRONMENTAL PROTECTION AUTHORITY CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| XANTHAN GUM | 11138-66-2 | 234-394-2 | >90% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact the National Poisons Centre on 0800 764 766 (0800 POISON) or +643 479 7248 or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form.

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

Adverse effects not expected from this product under normal conditions of use.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains or waterways.

### 5.2 Special hazards arising from the substance or mixture
Combustible. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Finely divided dust may form explosive mixtures with air.

### 5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled and tightly closed when not in use.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls
**Engineering controls** Avoid inhalation. Use in well ventilated areas.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Wear a Class P1 (Particulate) respirator. Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | LIGHT BEIGE POWDER |
| **Odour** | SLIGHT ODOUR |
| **Flammability** | COMBUSTIBLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | NOT AVAILABLE |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 1.5 |
| **Solubility (water)** | MISCIBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

| | |
|---|---|
| **Acute toxicity** | This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated. |
| **Skin** | Not classified as a skin irritant. Contact may result in mild irritation. |
| **Eye** | Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness. |
| **Sensitisation** | Not classified as causing skin or respiratory sensitisation. |
| **Mutagenicity** | No evidence of mutagenic effects. |
| **Carcinogenicity** | No evidence of carcinogenic effects. |
| **Reproductive** | No relevant or reliable studies were identified. |
| **STOT - single exposure** | Not classified as causing organ damage from single exposure. |
| **STOT - repeated exposure** | Not classified as causing organ damage from repeated exposure. |
| **Aspiration** | This product does not present an aspiration hazard. |

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity
No information provided.

### 12.2 Persistence and degradability
No information provided.

### 12.3 Bioaccumulative potential
No information provided.

### 12.4 Mobility in soil
No information provided.

### 12.5 Other adverse effects
No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

| | |
|---|---|
| **Waste disposal** | Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required). |
| **Legislation** | Dispose of in accordance with relevant local legislation. |

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD ACCORDING TO LAND TRANSPORT RULE: DANGEROUS GOODS 2005; NZS 5433:2012, UN, IMDG OR IATA**

| | LAND TRANSPORT (NZS 5433) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

### 14.5 Environmental hazards
No information provided.

### 14.6 Special precautions for user
**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Approval code** NON HAZARDOUS

**Group standard** NON HAZARDOUS

**Inventory listings** **NEW ZEALAND: NZIoC (New Zealand Inventory of Chemicals)**
All components are listed on the NZIoC inventory, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CCID | Chemical Classification and Information Database (HSNO) |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| EPA | Environmental Protection Authority [New Zealand] |
| GHS | Globally Harmonized System |
| HSNO | Hazardous Substances and New Organisms |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **NEWPAC LV/RD**

**Synonyms** NEWPAC RD ● POLICELL RG ● RHEOPAC LV ● RHEOPAC R ● RHEOPAC R/LV/UL/RD/LVD ● RHEOPAC UL

### 1.2 Uses and uses advised against

**Uses** DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| SODIUM CARBOXYMETHYL CELLULOSE | 9004-32-4 | 618-378-6 | >88% |
| SODIUM CHLORIDE | 7647-14-5 | 231-598-3 | <1.8% |
| WATER | 7732-18-5 | 231-791-2 | <10% |
| SODIUM GLYCOLATE | 2836-32-0 | 212-730-9 | <0.7% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If

swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form.

**First aid facilities** Normal washroom facilities should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

Adverse effects not expected from this product under normal conditions of use.

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains or waterways.

### 5.2 Special hazards arising from the substance or mixture

Combustible. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Finely divided dust may form explosive mixtures with air.

### 5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code

None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled and tightly closed when not in use.

### 7.3 Specific end uses

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Maintain dust levels below the recommended exposure standard.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Appearance** | WHITE OR YELLOWISH POWDER/GRANULES |
| **Odour** | SLIGHT ODOUR |
| **Flammability** | COMBUSTIBLE |
| **Flash point** | NOT AVAILABLE |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 6.0 to 8.5 (1 % solution) |
| **Vapour density** | NOT AVAILABLE |
| **Solubility (water)** | SOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT AVAILABLE |
| **Lower explosion limit** | NOT AVAILABLE |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity**

This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated.
Toxicity Data available on the ingredients:
SODIUM CARBOXYMETHYL CELLULOSE (9004-32-4)
LD50 (Ingestion): 16000 mg/kg (guinea pig)
LD50 (Skin): > 2000 mg/kg (rabbit)
TDLo (Ingestion): 140 mg/kg (rat)
SODIUM CHLORIDE (7647-14-5)
LC50 (Inhalation): > 42000 mg/m3/1 hour (rat)
LD50 (Ingestion): 3000 mg/kg (rat)
LD50 (Intraperitoneal): 2602 mg/kg (mouse)
LD50 (Intravenous): 645 mg/kg (mouse)
LD50 (Skin): > 10000 mg/kg (rabbit)
LD50 (Subcutaneous): 3000 mg/kg (mouse)
LDLo (Ingestion): 8000 mg/kg (rabbit)
LDLo (Intravenous): 300 mg/kg (guinea pig)
LDLo (Subcutaneous): 2160 mg/kg (guinea pig)
TDLo (Ingestion): 12357 mg/kg (human)
SODIUM GLYCOLATE (2836-32-0)
LD50 (Ingestion): 6700 mg/kg (mouse)
LDLo (Ingestion): 500 mg/kg (cat)

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| SODIUM CARBOXYMETHYL CELLULOSE | 16000 mg/kg (guinea pig) | > 2000 mg/kg (rabbit) | -- |
| SODIUM CHLORIDE | 3000 mg/kg (rat) | > 10000 mg/kg (rabbit) | > 42000 mg/m³/1 hour (rat) |
| SODIUM GLYCOLATE | 6700 mg/kg (mouse) | -- | -- |

**Additional ingredient toxicity values:**

SODIUM CARBOXYMETHYL CELLULOSE (9004-32-4)

| | |
|---|---|
| TDLo (oral) | 140 mg/kg (rat) |

SODIUM CHLORIDE (7647-14-5)

| | |
|---|---|
| LD50 (intraperitoneal) | 2602 mg/kg (mouse) |
| LD50 (intravenous) | 645 mg/kg (mouse) |
| LD50 (subcutaneous) | 3000 mg/kg (mouse) |
| LDLo (intravenous) | 300 mg/kg (guinea pig) |
| LDLo (oral) | 8000 mg/kg (rabbit) |
| LDLo (subcutaneous) | 2160 mg/kg (guinea pig) |
| TDLo (oral) | 12357 mg/kg (human) |

SODIUM GLYCOLATE (2836-32-0)

| | |
|---|---|
| LDLo (oral) | 500 mg/kg (cat) |

**Skin** Not classified as a skin irritant. Contact may result in mild irritation.

**Eye** Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** No evidence of mutagenic effects.

**Carcinogenicity** No evidence of carcinogenic effects.

**Reproductive** No relevant or reliable studies were identified.

**STOT - single exposure** Not classified as causing organ damage from single exposure.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** This product does not present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

LC50 (Fresh Water Trout) > 21,000 ppm/96hrs.
LC50 (Salt Water Stickel Back) > 56,000 ppm/96hrs.

### 12.2 Persistence and degradability

No information provided.

### 12.3 Bioaccumulative potential

Not expected to bioaccumulate.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

### 14.5 Environmental hazards

No information provided.

### 14.6 Special precautions for user

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

**Inventory listings** **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**
All components are listed on AIIC, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

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It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

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**Prepared by**

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**[ End of SDS ]**

# SAFETY DATA SHEET

## NDFT 376

**Issue Date** 03-Jan-2020 **Revision Date** 03-Jan-2020 **Version** 1

## 1. IDENTIFICATION

**Product identifier**

**Product Name** NDFT 376

**Other means of identification**

**Product Code** NDF00528

**Synonyms** None

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Fluid loss control additive

**Uses advised against** No information available

**Details of the supplier of the safety data sheet**

**Supplier**
Newpark Drilling Fluids LLC
21920 Merchants Way
Katy, Texas 77449
Telephone: +1 (800) 444-0682
http://www.newpark.com

**Emergency telephone number**

**Emergency Telephone** Chemtrec - US +1 (800) 424-9300
Chemtrec - International +1 (703) 527-3887

## 2. HAZARDS IDENTIFICATION

**Classification**

**Label elements**

**Hazard statements**

The product contains no substances which at their given concentration, are considered to be hazardous to health.

**Appearance** fibers **Physical state** Solid **Odor** No information available

**Other Information**

**Unknown acute toxicity** 100 % of the mixture consists of ingredient(s) of unknown toxicity

100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**

| Chemical name | CAS No. | Weight-% | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|---|---|---|---|---|
| Cellulose fiber | 65996-61-4 | 100 | - | - |

## 4. FIRST AID MEASURES

**Description of first aid measures**

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical** No information available.

**Hazardous combustion products** Carbon monoxide. Nitrogen oxides (NOx).

**Explosion data**

**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** None.

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Appropriate engineering controls**

**Engineering controls** Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** No special protective equipment required.

**Skin and body protection** No special protective equipment required.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical state** | Solid | | |
| **Appearance** | fibers | **Color** | yellow to brown |
| **Odor** | No information available | **Odor threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 7 - 8 | |
| **Melting point / freezing point** | | No information available |
| **Boiling point / boiling range** | | No information available |
| **Flash point** | | No information available |
| **Evaporation rate** | | No information available |
| **Flammability (solid, gas)** | | No information available |
| **Flammability Limit in Air** | | No information available |
| **Upper flammability limit:** | | |
| **Lower flammability limit:** | | |
| **Vapor pressure** | | No information available |
| **Vapor density** | | No information available |
| **Specific Gravity** | 0.9-1.2 | |
| **Water solubility** | | No information available |
| **Solubility in other solvents** | | No information available |
| **Partition coefficient** | | No information available |
| **Autoignition temperature** | | No information available |
| **Decomposition temperature** | | No information available |
| **Kinematic viscosity** | | No information available |
| **Dynamic viscosity** | | No information available |
| **Explosive properties** | No information available | |
| **Oxidizing properties** | No information available | |

**Other Information**

| | |
|---|---|
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC Content (%)** | No information available |
| **Liquid Density** | No information available |
| **Bulk density** | No information available |

## 10. STABILITY AND REACTIVITY

**Reactivity** No information available.

**Chemical stability** Stable under normal conditions.

**Possibility of Hazardous Reactions** None under normal processing.

**Conditions to avoid** None known based on information supplied.

**Incompatible materials** None known based on information supplied.

**Hazardous Decomposition Products** None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**

**Inhalation** Specific test data for the substance or mixture is not available.

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available.

**Information on toxicological effects**

**Symptoms** No information available.

**Numerical measures of toxicity**

**Acute toxicity**

**Unknown acute toxicity** 100 % of the mixture consists of ingredient(s) of unknown toxicity
100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Persistence and degradability** No information available.

**Bioaccumulation** No information available.

**Other adverse effects** No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| **Contaminated packaging** | Do not reuse empty containers. |

## 14. TRANSPORT INFORMATION

| | |
|---|---|
| **DOT** | Not Regulated |
| **TDG** | Not Regulated |
| **MEX** | Not Regulated |
| **IATA** | Not Regulated |
| **IMDG** | Not Regulated |

## 15. REGULATORY INFORMATION

**Regulatory information**

**International Regulations**

| | |
|---|---|
| **The Montreal Protocol on Substances that Deplete the Ozone Layer** | Not applicable |
| **The Stockholm Convention on Persistent Organic Pollutants** | Not applicable |
| **The Rotterdam Convention** | Not applicable |

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Complies |
| **ENCS** | Does not comply |
| **IECSC** | Complies |
| **KECL** | Complies |
| **PICCS** | Complies |
| **AICS** | Complies |
| **NZIoC** | Complies |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**US Federal Regulations**

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Acute health hazard** | No |
| **Chronic Health Hazard** | No |
| **Fire hazard** | No |
| **Sudden release of pressure hazard** | No |
| **Reactive Hazard** | No |

**CWA (Clean Water Act)**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**US State Regulations**

**California Proposition 65**
This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

## 16. OTHER INFORMATION

| | | | | |
|---|---|---|---|---|
| **NFPA** | **Health hazards** 0 | **Flammability** 0 | **Instability** 0 | **Physical and chemical properties** - |
| **HMIS** | **Health hazards** 0 | **Flammability** 0 | **Physical hazards** 0 | **Personal protection** X |

**Issue Date** 03-Jan-2020

**Revision Date** 03-Jan-2020

**Revision Note** No information available.

**Disclaimer**

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**provincial, or local regulations. For the product/ material described in this document, NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.**

**End of Safety Data Sheet**

# SAFETY DATA SHEET

## NDFT 377

**Issue Date** 03-Jan-2020 **Revision Date** 03-Jan-2020 **Version** 1

## 1. IDENTIFICATION

**Product identifier**

**Product Name** NDFT 377

**Other means of identification**

**Product Code** NDF00528-1

**Synonyms** None

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Fluid loss control additive

**Uses advised against** No information available

**Details of the supplier of the safety data sheet**

**Supplier**
Newpark Drilling Fluids LLC
21920 Merchants Way
Katy, Texas 77449
Telephone: +1 (800) 444-0682
http://www.newpark.com

**Emergency telephone number**

**Emergency Telephone** Chemtrec - US +1 (800) 424-9300
Chemtrec - International +1 (703) 527-3887

## 2. HAZARDS IDENTIFICATION

**Classification**

**Label elements**

**Hazard statements**

The product contains no substances which at their given concentration, are considered to be hazardous to health.

**Appearance** fibers **Physical state** Solid **Odor** No information available

**Other Information**

**Unknown acute toxicity** 100 % of the mixture consists of ingredient(s) of unknown toxicity

100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**

| Chemical name | CAS No. | Weight-% | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|---|---|---|---|---|
| Cellulose fiber | 65996-61-4 | 100 | - | - |

## 4. FIRST AID MEASURES

**Description of first aid measures**

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical** No information available.

**Hazardous combustion products** Carbon monoxide. Nitrogen oxides (NOx).

**Explosion data**

**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** None.

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Appropriate engineering controls**

**Engineering controls** Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** No special protective equipment required.

**Skin and body protection** No special protective equipment required.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical state** | Solid | | |
| **Appearance** | fibers | **Color** | yellow to brown |
| **Odor** | No information available | **Odor threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 7 - 8 | |
| **Melting point / freezing point** | | No information available |
| **Boiling point / boiling range** | | No information available |
| **Flash point** | | No information available |
| **Evaporation rate** | | No information available |
| **Flammability (solid, gas)** | | No information available |
| **Flammability Limit in Air** | | No information available |
| **Upper flammability limit:** | | |
| **Lower flammability limit:** | | |
| **Vapor pressure** | | No information available |
| **Vapor density** | | No information available |
| **Specific Gravity** | 0.9-1.2 | |
| **Water solubility** | | No information available |
| **Solubility in other solvents** | | No information available |
| **Partition coefficient** | | No information available |
| **Autoignition temperature** | | No information available |
| **Decomposition temperature** | | No information available |
| **Kinematic viscosity** | | No information available |
| **Dynamic viscosity** | | No information available |
| **Explosive properties** | No information available | |
| **Oxidizing properties** | No information available | |

**Other Information**

| | |
|---|---|
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC Content (%)** | No information available |
| **Liquid Density** | No information available |
| **Bulk density** | No information available |

## 10. STABILITY AND REACTIVITY

**Reactivity** No information available.

**Chemical stability** Stable under normal conditions.

**Possibility of Hazardous Reactions** None under normal processing.

**Conditions to avoid** None known based on information supplied.

**Incompatible materials** None known based on information supplied.

**Hazardous Decomposition Products** None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**

**Inhalation** Specific test data for the substance or mixture is not available.

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available.

**Information on toxicological effects**

**Symptoms** No information available.

**Numerical measures of toxicity**

**Acute toxicity**

**Unknown acute toxicity** 100 % of the mixture consists of ingredient(s) of unknown toxicity
100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Persistence and degradability** No information available.

**Bioaccumulation** No information available.

**Other adverse effects** No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| **Contaminated packaging** | Do not reuse empty containers. |

## 14. TRANSPORT INFORMATION

| | |
|---|---|
| **DOT** | Not Regulated |
| **TDG** | Not Regulated |
| **MEX** | Not Regulated |
| **IATA** | Not Regulated |
| **IMDG** | Not Regulated |

## 15. REGULATORY INFORMATION

**Regulatory information**

**International Regulations**

| | |
|---|---|
| **The Montreal Protocol on Substances that Deplete the Ozone Layer** | Not applicable |
| **The Stockholm Convention on Persistent Organic Pollutants** | Not applicable |
| **The Rotterdam Convention** | Not applicable |

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Complies |
| **ENCS** | Does not comply |
| **IECSC** | Complies |
| **KECL** | Complies |
| **PICCS** | Complies |
| **AICS** | Complies |
| **NZIoC** | Complies |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**US Federal Regulations**

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Acute health hazard** | No |
| **Chronic Health Hazard** | No |
| **Fire hazard** | No |
| **Sudden release of pressure hazard** | No |
| **Reactive Hazard** | No |

**CWA (Clean Water Act)**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**US State Regulations**

**California Proposition 65**
This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

## 16. OTHER INFORMATION

| | | | | |
|---|---|---|---|---|
| **NFPA** | **Health hazards** 0 | **Flammability** 0 | **Instability** 0 | **Physical and chemical properties** - |
| **HMIS** | **Health hazards** 0 | **Flammability** 0 | **Physical hazards** 0 | **Personal protection** X |

**Issue Date** 03-Jan-2020

**Revision Date** 03-Jan-2020

**Revision Note** No information available.

**Disclaimer**

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**provincial, or local regulations. For the product/ material described in this document, NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.**

**End of Safety Data Sheet**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **ANCOR 1**

**Synonyms** CORROSION INHIBITOR

### 1.2 Uses and uses advised against

**Uses** BRINE ● CORROSION INHIBITOR ● DRILLING FLUID ADDITIVE ● OIL AND GAS INDUSTRY

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**Physical Hazards**

Not classified as a Physical Hazard

**Health Hazards**

Serious Eye Damage / Eye Irritation: Category 2A

**Environmental Hazards**

Not classified as an Environmental Hazard

### 2.2 GHS Label elements

**Signal word** **WARNING**

**Pictograms**

**Hazard statements**

H319 Causes serious eye irritation.

**Prevention statements**

P264 Wash thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response statements**

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/attention.

**Storage statements**
None allocated.

**Disposal statements**
None allocated.

### 2.3 Other hazards
No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| TRIETHANOLAMINE | 102-71-6 | 203-049-8 | 68 to 72% |
| NON HAZARDOUS INGREDIENTS | Not Available | Not Available | 28 to 32% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. To protect rescuer, use a Type A (Organic vapour) respirator or an Air-line respirator (in poorly ventilated areas). Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed
Over exposure may result in irritation to the eyes, nose and respiratory system. May cause allergic contact dermatitis.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains or waterways.

### 5.2 Special hazards arising from the substance or mixture
Combustible. May evolve toxic gases (carbon/ nitrogen oxides, amines, ammonia, hydrocarbons) when heated to decomposition.

### 5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Store as a Class C2 Combustible Liquid (AS1940).

### 7.3 Specific end uses

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Triethanolamine | SWA [AUS] | -- | 5 | -- | -- |

**Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear splash-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | Wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Type A (Organic vapour) respirator. If spraying, wear a Type A-Class P1 (Organic gases/vapours and Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | COLOURLESS LIQUID |
| **Odour** | SLIGHT ODOUR |
| **Flammability** | CLASS C2 COMBUSTIBLE |
| **Flash point** | > 100°C |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | NOT AVAILABLE |

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 1.1 |
| **Solubility (water)** | SOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT AVAILABLE |
| **Lower explosion limit** | NOT AVAILABLE |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Hazardous polymerisation is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), nitrites, heat and ignition sources.

### 10.6 Hazardous decomposition products

May evolve toxic gases (carbon/ nitrogen oxides, amines, ammonia, hydrocarbons) when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity**

May be harmful if swallowed, in contact with skin, and/or if inhaled.
Toxicity Data available for the ingredient:
TRIETHANOLAMINE (102-71-6):
LD50 (Ingestion): 2200 mg/kg (rabbit)
LD50 (Intraperitoneal): 1450 mg/kg (mouse)
LD50 (Skin): > 20 mL/kg (rabbit)
TDLo (Ingestion): 16 g/kg/64 weeks (mouse - cancer)

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| TRIETHANOLAMINE | 6400 mg/kg (rat) | > 2000 mg/kg (rabbit) | -- |

**Additional ingredient toxicity values:**

TRIETHANOLAMINE (102-71-6)
LD50 (intraperitoneal) 1450 mg/kg (mouse)
TDLo (oral) 16 g/kg/64 weeks (mouse - cancer)

**Skin** Contact may result in irritation, redness and rash.

**Eye** Contact may result in irritation, lacrimation, pain and redness.

**Sensitisation** Triethanolamine has been reported to cause allergic contact dermatitis. It is not known to cause respiratory sensitisation.

**Mutagenicity** Not classified as a mutagen.

**Carcinogenicity** Triethanolamine is not classifiable as to its carcinogenicity to humans (IARC Group 3). Considering the animal studies conducted, there is no evidence of carcinogenicity through the oral route and equivocal

| | |
|---|---|
| | evidence of carcinogenicity through the dermal route. The available data do not warrant hazard classification. |
| **Reproductive** | Not classified as a reproductive toxin. |
| **STOT - single exposure** | Over exposure may result in irritation of the nose and throat, with coughing. High level exposure may result in breathing difficulties. |
| **STOT - repeated exposure** | Not classified as causing organ damage from repeated exposure. |
| **Aspiration** | Not expected to present an aspiration hazard. |

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

LC50 (shrimp): > 100 ppm.

### 12.2 Persistence and degradability

In soil and water, triethanolamine will biodegrade fairly rapidly following acclamation (half-life in the order of days to weeks).

### 12.3 Bioaccumulative potential

Not expected to bioaccumulate.

### 12.4 Mobility in soil

In soil, residual triethanolamine may leach to groundwater.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

| | |
|---|---|
| **Waste disposal** | Reduce with sodium thiosulphate/ bisulphite (not strong reducing agent), acidify with 3M sulphuric acid. Scoop into a container of water and neutralise with soda ash. Absorb with sand or similar and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required). |
| **Legislation** | Dispose of in accordance with relevant local legislation. |

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

### 14.5 Environmental hazards

No information provided.

### 14.6 Special precautions for user

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

| | |
|---|---|
| **Poison schedule** | Classified as a Schedule 5 (S5) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP). |
| **Classifications** | Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals. |

**Inventory listings**

**AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

# SAFETY DATA SHEET

## AVAPOLYMER 5050

**Issue Date** 12-Apr-2017 **Revision date** 09-Aug-2022 **Version** 1.1
EN

## Section 1: IDENTIFICATION: PRODUCT INDENTIFIER AND CHEMICAL IDENTITY

1

**Product identifier**

**Product Name** AVAPOLYMER 5050

**Product Code** NDF00252

**Other means of identification**

**Pure substance/mixture** Mixture

**Recommended use of the chemical and restrictions on use**

**Recommended Use** shale stabilizer

**Uses advised against** No information available

**Details of manufacturer or importer**

**Supplier**
Newpark Drilling Fluids (Australia) LTD
11 Alacrity Place
Henderson, WA, 6166
Australia

For further information, please contact

**Contact Point** Telephone: +61 8 9410 8200
Fax: +61 8 9410 8299
Website: www.newpark.com

**Emergency telephone number**

Emergency telephone number +(61)-290372994 (Australia); +(64)-98010034 (New Zealand)

## Section 2: HAZARD(S) IDENTIFICATION

**GHS - Classification**

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Label elements**

**Hazard statements**
Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Other hazards which do not result in classification**
May be harmful in contact with skin
**General Hazards**
This substance does not meet the PBT/vPvB criteria of REACH, annex XIII

## Section 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8

**Substance**

Not applicable

**Mixture**

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Non-hazardous ingredients | - | 100 |

## Section 4: FIRST AID MEASURES

**Description of first aid measures**

**Emergency telephone number** Poisons Information Center, Australia: 13 11 26
Poisons Information Center, New Zealand: 0800 764 766

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## Section 5: FIREFIGHTING MEASURES

**Suitable Extinguishing Media**

**Suitable extinguishing media** Water spray (fog). Carbon dioxide (CO2).

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Do not allow run-off from fire-fighting to enter drains or water courses.

**Hazardous combustion products** Carbon oxides.

**Special protective actions for fire-fighters**

| | |
|---|---|
| **Special protective equipment for fire-fighters** | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |
| **Hazchem code** | Not Listed. |

## Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | Ensure adequate ventilation. |
| **For emergency responders** | Use personal protection recommended in Section 8. |

**Environmental precautions**

| | |
|---|---|
| **Environmental precautions** | See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains. |

**Methods and material for containment and cleaning up**

| | |
|---|---|
| **Methods for containment** | Prevent further leakage or spillage if safe to do so. |
| **Methods for cleaning up** | Pick up and transfer to properly labeled containers. |

**Precautions to prevent secondary hazards**

| | |
|---|---|
| **Prevention of secondary hazards** | Clean contaminated objects and areas thoroughly observing environmental regulations. |

## Section 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

**Precautions for safe handling**

| | |
|---|---|
| **Advice on safe handling** | Handle in accordance with good industrial hygiene and safety practice. Avoid generation of dust. Wash thoroughly after handling. Wash contaminated clothing before reuse. |
| **General hygiene considerations** | Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. |

**Conditions for safe storage, including any incompatibilities**

| | |
|---|---|
| **Storage Conditions** | Keep containers tightly closed in a dry, cool and well-ventilated place. |
| **Incompatible materials** | None known |

## Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Control parameters**

| | |
|---|---|
| **Exposure Limits** | This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. |

| | |
|---|---|
| **Biological occupational exposure limits** | Not applicable |

**Appropriate engineering controls**

| | |
|---|---|
| **Engineering controls** | Showers<br>Eyewash stations |

Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear suitable protective clothing.

**Respiratory protection** In case of inadequate ventilation wear respiratory protection.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical state** | Solid | | |
| **Appearance** | Powder | **Odor** | Slight. |
| **Color** | No information available | **Odor threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 8.0 - 11.0 | 20 g/L solution |
| **Melting point / freezing point** | | No data available |
| **Boiling point / boiling range** | | No data available |
| **Flash point** | | Not applicable |
| **Evaporation rate** | | No data available |
| **Flammability (solid, gas)** | | No data available |
| **Flammability Limit in Air** | | No data available |
| **Upper flammability limit:** | | No data available |
| **Lower flammability limit:** | | No data available |
| **Vapor pressure** | | No data available |
| **Vapor density** | | No data available |
| **Relative density** | | No data available |
| **Water solubility** | Soluble in water | |
| **Solubility(ies)** | | No information available |
| **Partition coefficient** | | No information available |
| **Autoignition temperature** | | No data available |
| **Hyphen** | | No data available |
| **Kinematic viscosity** | | Not applicable |
| **Dynamic viscosity** | | Not applicable |

**Other information**

| | |
|---|---|
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC Content (%)** | No information available |
| **Liquid Density** | No information available |
| **Bulk density** | No information available |
| **Particle Size** | No information available |
| **Particle Size Distribution** | No information available |

## Section 10: STABILITY AND REACTIVITY

**Reactivity**

**Reactivity** Stable.

**Chemical stability**

**Stability** Stable under normal conditions.

**Explosion data**

**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** None.

**Possibility of hazardous reactions**

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid**

**Conditions to avoid** None known based on information supplied.

**Incompatible materials**

**Incompatible materials** None known.

**Hazardous decomposition products**

**Hazardous Decomposition Products** None known based on information supplied.

## Section 11: TOXICOLOGICAL INFORMATION

**Acute toxicity**

**Information on likely routes of exposure**

**Product Information** .

**Inhalation** Specific test data for the substance or mixture is not available.

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available

**Symptoms** No information available.

**Numerical measures of toxicity - Product Information**

**The following values are calculated based on chapter 3.1 of the GHS document**
**ATEmix (oral)** 27,000.00 mg/kg
**ATEmix (dermal)** 2,002.00 mg/kg

**Unknown acute toxicity** 100 % of the mixture consists of ingredient(s) of unknown toxicity
40 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
40 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

*See section 16 for terms and abbreviations*

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitization** No information available.

| | |
|---|---|
| **Germ cell mutagenicity** | No information available. |
| **Carcinogenicity** | No information available. |
| **Reproductive toxicity** | No information available. |
| **STOT - single exposure** | No information available. |
| **STOT - repeated exposure** | No information available. |
| **Aspiration hazard** | No information available. |

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| **Ecotoxicity** | The environmental impact of this product has not been fully investigated. |
| **Unknown aquatic toxicity** | 100 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |

**Persistence and degradability**

| | |
|---|---|
| **Persistence and degradability** | No information available. |

**Bioaccumulative potential**

| | |
|---|---|
| **Bioaccumulation** | No information available. |

**Mobility**

| | |
|---|---|
| **Mobility in soil** | No information available. |
| **Mobility** | No information available. |

**Other adverse effects**

| | |
|---|---|
| **Other adverse effects** | No information available. |

## Section 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| **Contaminated packaging** | Do not reuse empty containers. |

## Section 14: TRANSPORT INFORMATION

| | |
|---|---|
| **ADG** | Not regulated |
| **IATA** | Not Regulated |
| **IMDG** | Not Regulated |

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
No information available

## Section 15: REGULATORY INFORMATION

**Regulatory information**

**National regulations**

**Australia**
See section 8 for national exposure control parameters

**Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)**
No poisons schedule number allocated

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Complies |
| **ENCS** | Complies |
| **IECSC** | Complies |
| **PICCS** | Complies |
| **AICS** | Complies |
| **NZIoC** | Complies |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**Brunei Poison List** Not applicable.

## Section 16: ANY OTHER RELEVANT INFORMATION

**Issue Date** 12-Apr-2017

**Revision date** 09-Aug-2022

**Revision Note**
No information available.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

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**End of Safety Data Sheet**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **CAUSTIC SODA**

**Synonyms** SODIUM HYDROXIDE SOLID

### 1.2 Uses and uses advised against

**Uses** MANUFACTURE OF CHEMICALS ● REAGENT ● SCRUBBING AGENT

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**Physical Hazards**

Not classified as a Physical Hazard

**Health Hazards**

Skin Corrosion/Irritation: Category 1A

**Environmental Hazards**

Not classified as an Environmental Hazard

### 2.2 GHS Label elements

**Signal word** **DANGER**

**Pictograms**

**Hazard statements**

H314 Causes severe skin burns and eye damage.

**Prevention statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response statements**

| | |
|---|---|
| P301 + P330 + P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| P303 + P361 + P353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P304 + P340 | IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310 | Immediately call a POISON CENTER or doctor/physician. |
| P321 | Specific treatment is advised - see first aid instructions. |
| P363 | Wash contaminated clothing before reuse. |

**Storage statements**

| | |
|---|---|
| P405 | Store locked up. |

**Disposal statements**

| | |
|---|---|
| P501 | Dispose of contents/container in accordance with relevant regulations. |

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| SODIUM HYDROXIDE | 1310-73-2 | 215-185-5 | >99% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator where an inhalation risk exists. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

Causes severe skin burns and eye damage.

### 4.3 Immediate medical attention and special treatment needed

CORROSIVE POISONING TREATMENT: Immediate treatment preferably in a hospital is mandatory. In treating corrosive poisoning, DO NOT INDUCE VOMITING; DO NOT ATTEMPT GASTRIC LAVAGE; and DO NOT ATTEMPT TO NEUTRALISE THE CORROSIVE SUBSTANCE. Vomiting will increase the severity of damage to the oesophagus as the corrosive substance will again come in contact with it. Attempting gastric lavage may result in perforating either the oesophagus or stomach. Immediately dilute the corrosive substance by having the patient drink milk or water. If the trachea has been damaged tracheostamy may be required. For oesophageal burns begin broad-spectrum antibiotics and corticosteroid therapy. Intravenous fluids will be required if oesophageal or gastric damage prevents ingestion of liquids. Long-range therapy will be directed toward preventing or treating oesophageal scars and strictures.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire. Use carbon dioxide or suitable dry chemical extinguisher. Do NOT use water.

### 5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve flammable hydrogen gas in contact with some metals. Direct contact with water can produce a violent exothermic reaction.

### 5.3 Advice for firefighters

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code

2X

2 Fine Water Spray.

X Wear liquid-tight chemical protective clothing and breathing apparatus. Contain spill and run-off.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Allow only trained personnel wearing appropriate protective equipment to be involved in spill response. Avoid accidents, clean up immediately. Increase ventilation. Avoid walking through spilled product as it is slippery when spilt. Isolate the danger area. Use clean, non-sparking tools and equipment. Shut off all possible sources of ignition.

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Mechanically collect as much of the spill as possible. Absorb with sand, earth or clay. Transfer to suitable, labelled, corrosion-resistant containers and dispose of promptly as hazardous waste. Spill on areas other than pavement, dirt or sand may be handled by removing the affected soils and placing into approved containers.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product vapours. Avoid prolonged or repeated exposure. Do not smoke, eat or drink when handling product. Product can react violently with water and acids. Caustic solution generates heat when further diluted with water. Concentrations greater than 40%, the heat generated can raise temperatures above the boiling point resulting in sporadic, violent eruptions or spattering. Emergency showers and eye-washes must be available. When used in its various applications, the product must be prevented from coming into uncontrolled direct contact with other products such as acids and metals. Never neutralise the solid product.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. Store away from aluminium, tin, zinc and alloys (bronzes), chrome and lead. Protect from damp and kept apart from acids, halogenated hydrocarbons, nitroparaffins, etc. The floor must be waterproof and anti-slip. A water supply or source must be provided in the place of storage. Emergency showers and eye-washes must be available. Special conditions: Prevent the product from becoming damp or erated. Hygroscopic product. Becomes carbonated in contact with the air or moisture.

### 7.3 Specific end uses

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Sodium hydroxide (peak limitation) | SWA [AUS] | -- | 2 (Peak) | -- | -- |

**Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear a faceshield and dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | Wear coveralls and rubber boots and a PVC apron. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. At high dust levels, wear an Air-line respirator or a Full-face Class P3 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | WHITE DELIQUESCENT PEARLS |
| **Odour** | ODOURLESS |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | 1390°C |
| **Melting point** | 318°C |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 13.5 (1 % solution) |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 2.12 |
| **Solubility (water)** | 1110 kg/m³ @ 20°C |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Highly exothermal reaction with strong acids. Reacts dangerously with acetic acid, allyl chloride, chlorine trifluoride, chloroform, methylic alcohol, chloronitrotoluene, chlorosulphonic acid, glyoxal, cyanohydrin, hydrochloric acid, hydrofluoric acid, hydroquinone, nitric acid, sulphuric acid and oleum, nitropropane, phosphorous, propiolactone, phosphorous pentoxide, tetrachlorobenzene, tetrahydrofuran, etc. Caustic soda forms salts with nitromethane and nitroparaffins that explode on impact. Heat is generated when mixed with water. Spattering and boiling can occur. Caustic soda solution reacts readily with various reducing sugars (ie: fructose, glactose, maltose, dry whey solids) to produce carbon monoxide. Caustic soda forms salts with nitromethane and nitroparaffins that explode on impact. Reacts with aluminium, tin, zinc and their alloys, copper, lead, etc. giving off hydrogen.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), metals, heat and ignition sources.

### 10.6 Hazardous decomposition products

Reacts with aluminium, tin, zinc and their alloys, copper, lead, etc. giving off hydrogen. When the product decomposes, toxic sodium oxide gases are evolved.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity**

Highly corrosive. This product has the potential to cause serious adverse health effects. Use safe work practices to avoid eye or skin contact and inhalation. Over exposure may result in severe burns with corrosive tissue damage. Upon dilution, the potential for corrosive effects may be reduced.

SODIUM HYDROXIDE (1310-73-2):
LD50 (Intraperitoneal): 40 mg/kg (mouse)
LDLo (Ingestion): 1.57 mg/kg (human)

**Additional ingredient toxicity values:**

SODIUM HYDROXIDE (1310-73-2)

| | |
|---|---|
| LD50 (intraperitoneal) | 40 mg/kg (mouse) |
| LDLo (oral) | 500 mg/kg (rabbit) |

**Skin**

Causes severe burns. Contact may result in irritation, redness, pain, rash, dermatitis and skin burns.

**Eye**

Causes severe burns. Contact may result in irritation, lacrimation, pain, redness and corneal burns with possible permanent eye damage.

**Sensitisation**

Not classified as causing skin or respiratory sensitisation.

**Mutagenicity**

Insufficient data available to classify as a mutagen. Both the in vitro and the in vivo genetic toxicity tests indicated no evidence of mutagenic activity. Furthermore the substance is not expected to be systemically available in the body under normal handling and use conditions and for this reason additional testing is considered unnecessary (EU RAR, 2007).

**Carcinogenicity**

Not classified as a carcinogen. Insufficient data available to classify as a carcinogen. Systemic carcinogenicity is not expected to occur because the substance is not expected to be systemically available in the body under normal handling and use conditions.

**Reproductive**

Not classified as a reproductive toxin. Insufficient data available to classify as a reproductive toxin. The substance is not expected to be systemically available in the body under normal handling and use conditions and for this reason it can be stated that the substance will not reach the foetus nor reach male and female reproductive organs. The substance is not expected to be systemically available in the body under normal handling and use conditions and for this reason additional testing is considered unnecessary.

**STOT - single exposure**

Over exposure may result in irritation of the nose and throat, with coughing. High level exposure may result in breathing difficulties.

**STOT - repeated exposure**

Not classified as causing organ damage from repeated exposure.

**Aspiration**

This product does not present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

EC50 Ceriodaphnia: 40 mg/L.

No other valid studies available. The hazard of NaOH for the environment is caused by the hydroxyl ion (pH effect). For this reason the effect of NaOH on the organisms depends on the buffer capacity of the aquatic or terrestrial ecosystem (see also 3.1.2). Also the variation in acute toxicity for aquatic organisms can be explained for a significant extent by the variation in buffer capacity of the test medium. LC50 values ranged between 33 and 189 mg/L.

### 12.2 Persistence and degradability

Readily biodegradable. NaOH is a strong alkaline substance that dissociates completely in water to Na+ and OH-. High water solubility and low vapour pressure indicate that NaOH will be found predominantly in aquatic environment. This implies that it will not adsorb on particulate matter or surfaces. Atmospheric emissions as aerosols are rapidly neutralized by carbon dioxide and the salts will be washed out by rain.

### 12.3 Bioaccumulative potential

Does not bioaccumulate. Considering its high water solubility, NaOH is not expected to bioconcentrate in organisms. In addition, sodium is a naturally-occurring element that is prevalent in the environment and to which organisms are exposed regularly, for which they have some capacity to regulate the concentration in the organism.

### 12.4 Mobility in soil

High water solubility and mobility

### 12.5 Other adverse effects

WATER: If released to waterways, alkaline products may change the pH of the waterway. Fish will die if the pH reaches 10-11 (goldfish 10.9, bluegill 10.5). SOIL: May leach to groundwater with toxic effects on aquatic life as above. ATMOSPHERE: Not expected to reside in the atmosphere. Drops or particles released to atmosphere should be removed by gravity and/or be rained out.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Collect without generating dust. Place in clean, sealed containers and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required). The product can be neutralised using highly diluted hydrochloric acid, which should be added very slowly by specialised personnel wearing proper protection. Never neutralise the solid product.

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | 1823 | 1823 | 1823 |
| **14.2 Proper Shipping Name** | SODIUM HYDROXIDE, SOLID | SODIUM HYDROXIDE, SOLID | SODIUM HYDROXIDE, SOLID |
| **14.3 Transport hazard class** | 8 | 8 | 8 |
| **14.4 Packing Group** | II | II | II |

### 14.5 Environmental hazards

No information provided.

### 14.6 Special precautions for user

**Hazchem code** 2X

**GTEPG** 8A1

**EmS** F-A, S-B

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** Classified as a Schedule 6 (S6) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **SODIUM SULPHITE**

**Synonyms** SODIUM SULFITE

### 1.2 Uses and uses advised against

**Uses** ANTIOXIDANT ● FOOD PRESERVATIVE ● LABORATORY REAGENT ● PAPER INDUSTRY ● PHOTOGRAPHIC DEVELOPER ● REDUCING AGENT ● WATER TREATMENT

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**Physical Hazards**

Not classified as a Physical Hazard

**Health Hazards**

Acute Toxicity: Oral: Category 4
Serious Eye Damage / Eye Irritation: Category 1
Contact with acids liberates toxic gas.

**Environmental Hazards**

Not classified as an Environmental Hazard

### 2.2 GHS Label elements

**Signal word** **DANGER**

**Pictograms**

**Hazard statements**

| | |
|---|---|
| AUH031 | Contact with acids liberates toxic gas. |
| H302 | Harmful if swallowed. |
| H318 | Causes serious eye damage. |

**Prevention statements**

| | |
|---|---|
| P264 | Wash thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. |

**Response statements**

| | |
|---|---|
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310 | Immediately call a POISON CENTRE or doctor/physician. |
| P330 | Rinse mouth. |

**Storage statements**

None allocated.

**Disposal statements**

| | |
|---|---|
| P501 | Dispose of contents/container in accordance with relevant regulations. |

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| SODIUM SULPHITE | 7757-83-7 | 231-821-4 | >97% |
| SODIUM SULPHATE | 7757-82-6 | 231-820-9 | <2.5% |
| SODIUM CARBONATE | 497-19-8 | 207-838-8 | <0.1% |
| WATER | 7732-18-5 | 231-791-2 | <0.1% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

| | |
|---|---|
| **Eye** | If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes. |
| **Inhalation** | If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. |
| **Skin** | If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor. |
| **Ingestion** | For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Urgent hospital treatment is likely to be needed. If swallowed, do not induce vomiting. |
| **First aid facilities** | Eye wash facilities and safety shower are recommended. |

### 4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve sulphur oxides and sodium oxides when heated to decomposition.

### 5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire.

### 5.4 Hazchem code

None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Sodium Carbonate (total dust) | SWA [AUS] | -- | 10 | -- | -- |

**Biological limits**
No biological limit values have been entered for this product.

### 8.2 Exposure controls
**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. At high dust levels, wear a Full-face Class P3 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | WHITE CRYSTALLINE SOLID |
| **Odour** | ODOURLESS |
| **Flammability** | NON FLAMMABLE |

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Flash point** | NOT RELEVANT |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 9.0 to 10.5 |
| **Vapour density** | NOT AVAILABLE |
| **Relative density** | 2.6 |
| **Solubility (water)** | SOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity
Contact with acids liberates toxic gas.

### 10.2 Chemical stability
Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions
Polymerization is not expected to occur.

### 10.4 Conditions to avoid
Avoid heat, sparks, open flames and other ignition sources. Avoid exposure to air and moisture. Sensitive to air and moisture.

### 10.5 Incompatible materials
Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid). Strong reducing agent.

### 10.6 Hazardous decomposition products
May evolve sulphur oxides and sodium oxides when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** Harmful if swallowed.

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| SODIUM SULPHITE | 820 mg/kg (mouse); 3560 mg/kg (rat) | > 2000 mg/kg (rat) | > 5500 mg/m3/4hrs (rat) |
| SODIUM SULPHATE | 5989 mg/kg (mouse) | -- | -- |
| SODIUM CARBONATE | > 2000 mg/kg (rat) (AICIS) | > 2000 mg/kg (rat) (AICIS) | > 2000 mg/m³ (rat) (AICIS) |

**Additional ingredient toxicity values:**

SODIUM SULPHITE (7757-83-7)

| | |
|---|---|
| LD50 (intraperitoneal) | 950 mg/kg (mouse) |
| LD50 (intravenous) | 175 mg/kg (mouse) |
| LDLo (intravenous) | 400 mg/kg (cat) |
| LDLo (oral) | 2825 mg/kg (rabbit) |
| LDLo (subcutaneous) | 600 mg/kg (rabbit) |

SODIUM SULPHATE (7757-82-6)

| | |
|---|---|
| LD50 (intravenous) | 1220 mg/kg (rabbit) |
| LDLo (intravenous) | 1220 mg/kg (mouse) |
| TDLo (oral) | 14 g/kg (mouse - 8-12 days pregnant) |
| TDLo (subcutaneous) | 806 mg/kg/26 weeks intermittently (mouse) |

SODIUM CARBONATE (497-19-8)

| | |
|---|---|
| LD50 (intraperitoneal) | 117 mg/kg (mouse) |
| LD50 (subcutaneous) | 2210 mg/kg (mouse) |

**Skin** Contact may result in irritation, redness, rash and dermatitis.

**Eye** Contact may result in irritation, lacrimation, pain, redness and possible serious eye damage.

**Sensitisation** Some individuals are hypersensitive to sulphites and may experience adverse reactions following exposure. Individuals known to be hypersensitive or with existing respiratory problems (eg asthma) are advised to avoid exposure.

**Mutagenicity** Not classified as a mutagen.

**Carcinogenicity** Not classified as a carcinogen.

**Reproductive** Not classified as a reproductive toxin.

**STOT - single exposure** Over exposure may result in mucous membrane irritation of the respiratory tract, with coughing.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** Not classified as causing aspiration.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity
No information provided.

### 12.2 Persistence and degradability
Biodegradability does not pertain to inorganic substances.

### 12.3 Bioaccumulative potential
This product does not bioaccumulate.

### 12.4 Mobility in soil
No information provided.

### 12.5 Other adverse effects
Avoid contamination of drains and waterways.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Cover spill with soda ash or sodium bicarbonate. Mix and spray with water, may be effervescent. Wait until reaction is complete, scoop into a large beaker and cautiously add equal volume of sodium hypochlorite (reaction may be vigorous). Add more water, stir and allow to stand (~1hr). Dilute and neutralise. Absorb with sand/similar dispose of to an approved landfill site, or alternatively (for small amounts) flush to sewer with large excess of water.

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

**Inventory listings** **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**
All components are listed on AIIC, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

WORKPLACE CONTROLS AND PRACTICES: Unless a less toxic chemical can be substituted for a hazardous substance, ENGINEERING CONTROLS are the most effective way of reducing exposure. The best protection is to enclose operations and/or provide local exhaust ventilation at the site of chemical release. Isolating operations can also reduce exposure. Using respirators or protective equipment is less effective than the controls mentioned above, but is sometimes necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **SODA ASH**

**Synonyms** SODA ASH DENSE ● SODIUM CARBONATE

### 1.2 Uses and uses advised against

**Uses** DRILLING AID

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**Physical Hazards**

Not classified as a Physical Hazard

**Health Hazards**

Serious Eye Damage / Eye Irritation: Category 1
Specific Target Organ Toxicity (Single Exposure): Category 3 (Respiratory Irritation)

**Environmental Hazards**

Not classified as an Environmental Hazard

### 2.2 GHS Label elements

**Signal word** **DANGER**

**Pictograms**

**Hazard statements**

H318 Causes serious eye damage.
H335 May cause respiratory irritation.

**Prevention statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response statements**

| | |
|---|---|
| P304 + P340 | IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310 | Immediately call a POISON CENTER or doctor/physician. |

**Storage statements**

| | |
|---|---|
| P403 + P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P405 | Store locked up. |

**Disposal statements**

| | |
|---|---|
| P501 | Dispose of contents/container in accordance with relevant regulations. |

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| SODIUM CARBONATE | 497-19-8 | 207-838-8 | >97% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

Irritating to the eyes and skin.

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve toxic gases if strongly heated.

### 5.3 Advice for firefighters

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code

None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Ventilate area where possible.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Sodium Carbonate (total dust) | SWA [AUS] | -- | 10 | -- | -- |

**Biological limits**
No biological limit values have been entered for this product.

### 8.2 Exposure controls
**Engineering controls** Avoid inhalation. Use in well ventilated areas.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | WHITE POWDER |
| **Odour** | ODOURLESS |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | 854°C |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | NOT AVAILABLE |

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 2.533 |
| **Solubility (water)** | 170 g/L |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve toxic gases if heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** May be harmful if swallowed.

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| SODIUM CARBONATE | > 2000 mg/kg (rat) (NICNAS) | > 2000 mg/kg (rat) (NICNAS) | > 2000 mg/m³ (rat) (NICNAS) |

**Additional ingredient toxicity values:**

SODIUM CARBONATE (497-19-8)

LD50 (intraperitoneal) 117 mg/kg (mouse)

LD50 (subcutaneous) 2210 mg/kg (mouse)

**Skin** Contact may result in irritation, redness, rash and dermatitis.

**Eye** Contact may result in irritation, lacrimation, pain, redness and possible permanent damage.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Not classified as a mutagen.

**Carcinogenicity** Not classified as a carcinogen.

**Reproductive** Not classified as a reproductive toxin.

**STOT - single exposure** Over exposure may result in irritation of the nose and throat, with coughing. High level exposure may result in breathing difficulties.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure. Carbonate ions are neutralised under physiological conditions to form bicarbonate ions and/or carbon dioxide, which are major products of all human metabolic activities; therefore, systemic toxicity is not expected.

**Aspiration** Not classified as causing aspiration.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Fishes, Lepomis macrochirus, LC50, 96 h, 300 mg/l. Crustaceans, Ceriodaphnia dubia, EC50, 48 h, 200 - 227 mg/l.

### 12.2 Persistence and degradability

Not applicable for inorganic substances. The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.3 Bioaccumulative potential

Not expected to bioaccumulate.

### 12.4 Mobility in soil

If sodium carbonate is emitted to soil it can escape to atmosphere as carbon dioxide, precipitate as a metal carbonate, form complexes or stay in solution.

### 12.5 Other adverse effects

WATER: If released to waterways, alkaline products may change the pH of the waterway. Fish will die if the pH reaches 10-11 (goldfish 10.9, bluegill 10.5). SOIL: May leach to groundwater with toxic effects on aquatic life as above. ATMOSPHERE: Not expected to reside in the atmosphere. Drops or particles released to atmosphere should be removed by gravity and/or be rained out.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Collect without generating dust. Place in clean, sealed containers and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

### 14.5 Environmental hazards

No information provided.

### 14.6 Special precautions for user

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **SODIUM BICARBONATE**

**Synonyms** BAKING SODA ● BICARBONATE OF SODA ● CARBONIC ACID, MONOSODIUM SALT ● MONOSODIUM CARBONATE ● SODIUM ACID CARBONATE ● SODIUM HYDROGEN CARBONATE

### 1.2 Uses and uses advised against

**Uses** PH CONTROL

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| SODIUM BICARBONATE | 144-55-8 | 205-633-8 | >99% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).

**First aid facilities** Eye wash facilities should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

No adverse health effects expected if the product is handled in accordance with the SDS and the product label.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve carbon oxides and hydrocarbons when heated to decomposition.

### 5.3 Advice for firefighters
Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure packages are adequately labelled, protected from physical damage and sealed when not in use.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Sodium Bicarbonate (total dust) | SWA [AUS] | -- | 10 | -- | -- |

**Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls
**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PPE**

| | |
|---|---|
| **Eye / Face** | When using large quantities or where heavy contamination is likely, wear dust-proof goggles. |
| **Hands** | When using large quantities or where heavy contamination is likely, wear PVC or rubber gloves. |
| **Body** | Not required under normal conditions of use. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | WHITE POWDER |
| **Odour** | ODOURLESS |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | 854°C |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 8 (1% Solution) |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 2.533 |
| **Solubility (water)** | 170 g/L @ 25°C |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated. Sodium bicarbonate can neutralise the gastric juices in the stomach. During neutralisation, carbon dioxide gas is evolved and may cause stretching of the stomach, and with very large doses possible damage or rupture.

LD50 (Ingestion): 3360 mg/kg (mouse)
LC50 (inhalation): 4.74 mg/L (rat)

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| SODIUM BICARBONATE | > 4000 mg/kg (rat) | -- | > 4.74 mg/L/4.5hrs (rat) |

**Skin** Not classified as a skin irritant. Prolonged or repeated contact may result in mild irritation.

**Eye** Not classified as an eye irritant. Contact may result in mild irritation, lacrimation and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Not classified as a mutagen.

**Carcinogenicity** Not classified as a carcinogen.

**Reproductive** Not classified as a reproductive toxin.

**STOT - single exposure** Not classified as causing organ damage from single exposure.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** Not relevant.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

LC50 (Oncorhynchus mykiss) = 7.700 mg/l/96hrs.
LC50 (Lepomis macrochirus) = 7.100 mg/l/96hrs.
EC50 (Crustaceans, Daphnia magna) = 4.100 mg/l/48hrs
LOEC (Crustaceans, Daphnia magna) = 3.100 mg/l/48hrs.

### 12.2 Persistence and degradability

Biodegradability does not pertain to inorganic substances.

### 12.3 Bioaccumulative potential

Does not bioaccumulate.

### 12.4 Mobility in soil

High mobility in water and soil/sediments.

### 12.5 Other adverse effects

This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

### 14.5 Environmental hazards

No information provided.

### 14.6 Special precautions for user

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **IDCIDE-20**

**Synonyms** IDCIDE 20

### 1.2 Uses and uses advised against

**Uses** BIOCIDE ● DRILLING FLUID ADDITIVE ● WATER TREATMENT

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**Physical Hazards**

Not classified as a Physical Hazard

**Health Hazards**

Acute Toxicity: Oral: Category 4
Skin Corrosion/Irritation: Category 2
Skin Sensitisation: Category 1
Serious Eye Damage / Eye Irritation: Category 2A

**Environmental Hazards**

Not classified as an Environmental Hazard

### 2.2 GHS Label elements

**Signal word** **WARNING**

**Pictograms**

**Hazard statements**

| | |
|---|---|
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |

**Prevention statements**

| | |
|---|---|
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |
| P264 | Wash thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |

**Response statements**

| | |
|---|---|
| P301 + P312 | IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. |
| P302 + P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P321 | Specific treatment is advised - see first aid instructions. |
| P330 | Rinse mouth. |
| P333 + P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P362 | Take off contaminated clothing and wash before re-use. |

**Storage statements**

None allocated.

**Disposal statements**

| | |
|---|---|
| P501 | Dispose of contents/container in accordance with relevant regulations. |

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULPHATE(2:1) | 55566-30-8 | 259-709-0 | 18 to 25% |
| WATER | 7732-18-5 | 231-791-2 | Remainder |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. To protect rescuer, use a Type A (Organic vapour) respirator or an Air-line respirator (in poorly ventilated areas). Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).

**First aid facilities** Eye wash facilities should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve carbon oxides and hydrocarbons when heated to decomposition. May evolve carbon oxides, sulphur oxides and phosphates when heated to decomposition.

### 5.3 Advice for firefighters

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code

None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Large storage areas should have appropriate ventilation systems.

### 7.3 Specific end uses

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear splash-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | Wear coveralls. In a laboratory situation, wear a laboratory coat. |
| **Respiratory** | Where an inhalation risk exists, wear a Type A (Organic vapour) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | COLOURLESS TO PALE YELLOW LIQUID |
| **Odour** | SLIGHT ODOUR |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | > 100°C |
| **Melting point** | < 0°C |
| **Evaporation rate** | AS FOR WATER |
| **pH** | 3.0 to 3.5 |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 1.08 |
| **Solubility (water)** | SOLUBLE |
| **Vapour pressure** | 18 mm Hg @ 20°C |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

### 9.2 Other information

| | |
|---|---|
| **% Volatiles** | > 60 % (Water) |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), heat and ignition sources.

### 10.6 Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** Harmful if swallowed.

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULPHATE(2:1) | 248 mg/kg (rat) | > 2000 mg/kg (rat) | 5.5 mg/L/4hrs (rat) |

**Additional ingredient toxicity values:**

TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULPHATE(2:1) (55566-30-8)

TDLo (oral) 650 mg/kg/13 weeks - intermittent (rat)

**Skin** Contact may result in irritation, redness, pain and rash.

| | |
|---|---|
| **Eye** | Contact may result in irritation, lacrimation, pain and redness. |
| **Sensitisation** | May cause an allergic skin reaction. This product is not classified as a respiratory sensitiser. |
| **Mutagenicity** | Not classified as a mutagen. |
| **Carcinogenicity** | Not classified as a carcinogen. |
| **Reproductive** | Not classified as a reproductive toxin. |
| **STOT - single exposure** | Over exposure may result in respiratory irritation, nausea, dizziness, drowsiness and headache. |
| **STOT - repeated exposure** | Not classified as causing organ damage from repeated exposure. |
| **Aspiration** | Not classified as causing aspiration. |

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

75% TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULPHATE (55566-30-8):
LC50 (Rainbow Trout) = 119 mg/L/96 hr
LC50(Bluegill Sunfish) = 93 mg/L/ 96 hr
EC50 (Daphnia Magna) = 19 mg/L/48 hr
LC50 (Brown Shrimp) = 340 mg/L/96 hr
LC50 (Mysid Shrimp ) = 9.5 mg/L/96 hr
LC50 (Sheepshead Minnow) = 94 mg/L/96 hr
LC50 (Jevenile Plaice) = 86 mg/L/96 hr

Waste Water management
EC50 (Activated Sludge) = 24 mg/L/3 hr

### 12.2 Persistence and degradability

This product is readily biodegradable.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** For small amounts, absorb with sand, vermiculite or similar and dispose of to an approved landfill site. For large quantities, contact the manufacturer/supplier for additional information. Prevent contamination of drains and waterways as aquatic life may be threatened and environmental damage may result.

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

### 14.5 Environmental hazards

No information provided.

### 14.6 Special precautions for user

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **CITRIC ACID**

**Synonyms** 2-HYDROXY-1,2,3-PROPANETRICARBOXYLIC ACID ● CITRIC ACID ANHYDROUS ● CITRIC ACID MONOHYDRATE

### 1.2 Uses and uses advised against

**Uses** INDUSTRIAL APPLICATIONS

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**Physical Hazards**

Not classified as a Physical Hazard

**Health Hazards**

Skin Corrosion/Irritation: Category 2
Serious Eye Damage / Eye Irritation: Category 2A
Specific Target Organ Toxicity (Single Exposure): Category 3 (Respiratory Irritation)

**Environmental Hazards**

Not classified as an Environmental Hazard

### 2.2 GHS Label elements

**Signal word** **WARNING**

**Pictograms**

**Hazard statements**

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

**Prevention statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response statements**

| | |
|---|---|
| P302 + P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P304 + P340 | IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P312 | Call a POISON CENTER or doctor/physician if you feel unwell. |
| P321 | Specific treatment is advised - see first aid instructions. |
| P362 | Take off contaminated clothing and wash before re-use. |

**Storage statements**

| | |
|---|---|
| P403 + P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P405 | Store locked up. |

**Disposal statements**

| | |
|---|---|
| P501 | Dispose of contents/container in accordance with relevant regulations. |

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| CITRIC ACID | 77-92-9 | 201-069-1 | >99% |
| WATER | 7732-18-5 | 231-791-2 | <1% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

Irritating to the eyes, skin and respiratory system.

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains or waterways.

### 5.2 Special hazards arising from the substance or mixture

Combustible. May evolve carbon oxides and hydrocarbons when heated to decomposition.

### 5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code

None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Ventilate area where possible.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from moisture, incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits** No Biological Limit Value allocated.

### 8.2 Exposure controls
**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | At high dust levels, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | WHITE CRYSTALLINE POWDER |
| **Odour** | ODOURLESS |
| **Flammability** | COMBUSTIBLE |
| **Flash point** | 174°C |
| **Boiling point** | 175°C (Decomposes) |
| **Melting point** | 153°C |

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 2.2 (0.1M Solution) |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 1.665 |
| **Solubility (water)** | 1330 kg/m³ @ 20°C |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT AVAILABLE |
| **Lower explosion limit** | NOT AVAILABLE |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | 345°C |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and alkalis (e.g. sodium hydroxide).

### 10.6 Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity**

Based on available data, the classification criteria are not met.
LD50 (Ingestion): 3000 mg/kg (rat)
LD50 (Intraperitoneal): 290 mg/kg (rat)
LD50 (Intravenous): 42 mg/kg (mouse)
LDLo (Ingestion): 7000 mg/kg (rabbit)

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| CITRIC ACID | 3000 mg/kg (rat) | > 2000 mg/kg (rat) | -- |

**Additional ingredient toxicity values:**

CITRIC ACID (77-92-9)

| | |
|---|---|
| LD50 (intraperitoneal) | 290 mg/kg (rat) |
| LD50 (intravenous) | 42 mg/kg (mouse) |
| LDLo (oral) | 7000 mg/kg (rabbit) |

**Skin** Irritating to the skin. Contact may result in irritation, redness, rash and dermatitis.

**Eye** Irritating to the eyes. Contact may result in irritation, lacrimation, pain and redness. May result in burns with prolonged contact.

**Sensitisation** Not classified as causing skin or respiratory sensitisation. However, citric acid has the potential to cause allergic effects.

**Mutagenicity** Insufficient data available to classify as a mutagen.

| | |
|---|---|
| **Carcinogenicity** | Insufficient data available to classify as a carcinogen. |
| **Reproductive** | Insufficient data available to classify as a reproductive toxin. |
| **STOT - single exposure** | Irritating to the respiratory system. Over exposure may result in irritation of the nose and throat, with coughing. |
| **STOT - repeated exposure** | Not classified as causing organ damage from repeated exposure. |
| **Aspiration** | This product does not present an aspiration hazard. |

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

LC50 (Leuciscus idus melanotus): 440 mg/L/48hrs.
LC50 (Daphnia magna (Water flea)): 1.535 mg/L/24hrs.

### 12.2 Persistence and degradability

This product is readily biodegradable.

### 12.3 Bioaccumulative potential

This product does not bioaccumulate.

### 12.4 Mobility in soil

Citric acid is expected to have very high mobility in soil (HSDB).

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

| | |
|---|---|
| **Waste disposal** | Neutralise with lime, anion exchanger or similar. For small amounts, absorb with sand or similar and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required). |
| **Legislation** | Dispose of in accordance with relevant local legislation. |

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

### 14.5 Environmental hazards

No information provided.

### 14.6 Special precautions for user

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

| | |
|---|---|
| **Poison schedule** | A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP). |
| **Classifications** | Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals. |

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

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**Prepared by**

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **MAGNESIUM OXIDE**

**Synonyms** CALCINED MAGNESIA ● MAGNESIA ● MAGOXI16 / 27 - PRODUCT CODE

### 1.2 Uses and uses advised against

**Uses** DRILLING FLUID ADDITIVE ● PH INDICATOR

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| MAGNESIUM OXIDE | 1309-48-4 | 215-171-9 | >94% |
| CALCIUM OXIDE | 1305-78-8 | 215-138-9 | <3.5% |
| SILICON DIOXIDE (SILICA, AMORPHOUS) | 7631-86-9 | 231-545-4 | <2.5% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed
See Section 11 for more detailed information on health effects and symptoms.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve magnesium oxides when heated to decomposition.

### 5.3 Advice for firefighters
Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Ventilate area where possible.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure product is adequately labelled, protected from physical damage and sealed when not in use.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Calcium oxide | SWA [AUS] | -- | 2 | -- | -- |
| Calcium oxide | SWA [Proposed] | -- | 1 | -- | -- |
| Fumed silica (respirable dust) | SWA [AUS] | -- | 2 | -- | -- |
| Magnesium oxide (fume) | SWA [AUS] | -- | 10 | -- | -- |

**Biological limits**
No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | Not required under normal conditions of use. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Appearance** | WHITE GRANULES |
| **Odour** | ODOURLESS |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | 3600°C |
| **Melting point** | 2800°C |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | NOT AVAILABLE |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 3.6 - 3.7 |
| **Solubility (water)** | SLIGHTLY SOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

**9.2 Other information**

| | |
|---|---|
| **% Volatiles** | 0 % |

## 10. STABILITY AND REACTIVITY

**10.1 Reactivity**
Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**
Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**
Polymerization is not expected to occur.

**10.4 Conditions to avoid**
Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible (violently) with interhalogens (e.g. bromine pentafluoride, chlorine trifluoride) and phosphorus pentachloride. May ignite or explode when heated with aluminium powder. Also incompatible with acids (e.g. nitric acid) and dampness as material hydrates.

### 10.6 Hazardous decomposition products

May evolve magnesium oxides when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** Based on available data, the classification criteria are not met.

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| SILICON DIOXIDE (SILICA, AMORPHOUS) | 3160 mg/kg (rat) | -- | -- |

**Skin** Contact may result in irritation, redness, rash and dermatitis.

**Eye** Contact may result in irritation, lacrimation, pain and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Not classified as a mutagen.

**Carcinogenicity** Not classified as a carcinogen.

**Reproductive** Not classified as a reproductive toxin.

**STOT - single exposure** Not classified as causing organ damage from single exposure. However, over exposure may result in irritation of the nose and throat, with coughing.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** Not classified as causing aspiration.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

No information provided.

### 12.2 Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.3 Bioaccumulative potential

Not expected to bioaccumulate.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** For small amounts, cover with moist sand, vermiculite or similar to avoid dust hazard and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information if disposing of large quantities (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

EXPOSURE STANDARDS - TIME WEIGHTED AVERAGES: Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: Strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

# SAFETY DATA SHEET

## TRIETHANOLAMINE

**Issue Date** 08-Aug-2022 **Revision date** 08-Aug-2022 **Version** 1
EN

## Section 1: IDENTIFICATION: PRODUCT INDENTIFIER AND CHEMICAL IDENTITY

**Product identifier**

**Product Name** TRIETHANOLAMINE

**Product Code** NDF00931

**Other means of identification**

**Pure substance/mixture** Mixture

**Recommended use of the chemical and restrictions on use**

**Recommended Use** No information available

**Uses advised against** No information available

**Details of manufacturer or importer**

**Supplier**
Newpark Drilling Fluids (Australia) LTD
11 Alacrity Place
Henderson, WA, 6166
Australia

For further information, please contact

**Contact Point** Telephone: +61 8 9410 8200
Fax: +61 8 9410 8299
Website: www.newpark.com

**Emergency telephone number**

Emergency telephone number +(61)-290372994 (Australia); +(64)-98010034 (New Zealand)

## Section 2: HAZARD(S) IDENTIFICATION

**GHS - Classification**

| | |
|---|---|
| **Acute toxicity - Oral** | Category 4 - (H302) |
| **Skin corrosion/irritation** | Category 2 - (H315) |
| **Serious eye damage/eye irritation** | Category 1 - (H318) |
| **Carcinogenicity** | Category 2 - (H351) |
| **Specific target organ toxicity (repeated exposure)** | Category 2 - (H373) |

**Label elements**

Exclamation mark
Health hazard

Corrosion

**Signal word**
Danger

**Hazard statements**
H302 - Harmful if swallowed
H315 - Causes skin irritation
H318 - Causes serious eye damage
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements - Prevention**
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
**Precautionary Statements - Response**
IF exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
**Precautionary Statements - Storage**
Store locked up
**Precautionary Statements - Disposal**
Dispose of contents/container to an approved waste disposal plant

**Other hazards which do not result in classification**
Toxic to aquatic life with long lasting effects
Toxic to aquatic life
**General Hazards**
No information available

## Section 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8

**Substance**

Not applicable

**Mixture**

| Chemical name | CAS No | Weight-% | REACH registration number |
|---|---|---|---|
| Triethanolamine | 102-71-6 | >60 | 01-2119486482-31-xxxx |
| Diethanolamine | 111-42-2 | 10-30 | 01-2119488930-28-XXXX |

## Section 4: FIRST AID MEASURES

**Description of first aid measures**

| | |
|---|---|
| **General advice** | Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. IF exposed or concerned: Get medical advice/attention. |
| **Emergency telephone number** | Poisons Information Center, Australia: 13 11 26<br>Poisons Information Center, New Zealand: 0800 764 766 |
| **Inhalation** | Remove to fresh air. Get medical attention immediately if symptoms occur. |
| **Eye contact** | Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. |
| **Skin contact** | Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists. |
| **Ingestion** | Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician. |
| **Self-protection of the first aider** | Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). |

**Most important symptoms and effects, both acute and delayed**

| | |
|---|---|
| **Symptoms** | Burning sensation. |

**Indication of any immediate medical attention and special treatment needed**

| | |
|---|---|
| **Note to physicians** | Treat symptomatically. |

## Section 5: FIREFIGHTING MEASURES

**Suitable Extinguishing Media**

| | |
|---|---|
| **Suitable extinguishing media** | Dry chemical. Foam. Carbon dioxide (CO2). |
| **Unsuitable extinguishing media** | No information available. |

**Specific hazards arising from the chemical**

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Do not allow run-off from fire-fighting to enter drains or water courses.

**Special protective actions for fire-fighters**

| | |
|---|---|
| **Special protective equipment for fire-fighters** | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |
| **Hazchem code** | Not Listed. |

## Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. |
| **Other Information** | Refer to protective measures listed in Sections 7 and 8. |
| **For emergency responders** | Use personal protection recommended in Section 8. |

**Environmental precautions**

**Environmental precautions** Prevent further leakage or spillage if safe to do so.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Precautions to prevent secondary hazards**

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## Section 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Wash contaminated clothing before reuse.

**General hygiene considerations** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.

## Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Control parameters**

**Exposure Limits**

| Chemical name | Australia |
|---|---|
| Triethanolamine<br>102-71-6 | 5 mg/m$^3$ |
| Diethanolamine<br>111-42-2 | 3 ppm<br>13 mg/m$^3$ |

**Biological occupational exposure limits** Not applicable

**Appropriate engineering controls**

**Engineering controls** Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing.

**Hand protection** Wear suitable gloves. Impervious gloves.

**Respiratory protection** In case of inadequate ventilation wear respiratory protection.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical state** | Liquid | | |
| **Appearance** | liquid | **Odor** | Mild. ammonia like. |
| **Color** | No information available | **Odor threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 10.5 | 1% solution |
| **Melting point / freezing point** | 12 °C | No information available |
| **Boiling point / boiling range** | 335 °C | |
| **Flash point** | 190 °C | |
| **Evaporation rate** | | No information available |
| **Flammability (solid, gas)** | | No information available |
| **Flammability Limit in Air** | | No information available |
| **Upper flammability limit:** | | No data available |
| **Lower flammability limit:** | | No data available |
| **Vapor pressure** | < 1 kPa @ 20°C | No data available |
| **Vapor density** | 4.80 (Air = 1) | No data available |
| **Relative density** | 1.123 | No information available |
| **Water solubility** | Soluble in water | |
| **Solubility(ies)** | | No information available |
| **Partition coefficient** | | No information available |
| **Autoignition temperature** | | No information available |
| **Hyphen** | | No information available |
| **Kinematic viscosity** | | |
| **Dynamic viscosity** | 450 mPa s @ 25 °C | |

**Other information**

| | |
|---|---|
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC Content (%)** | No information available |
| **Liquid Density** | No information available |
| **Bulk density** | No information available |
| **Particle Size** | No information available |
| **Particle Size Distribution** | No information available |

## Section 10: STABILITY AND REACTIVITY

**Reactivity**

**Reactivity** No information available.

**Chemical stability**

**Stability** Stable under normal conditions.

**Explosion data**
**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** None.

**Possibility of hazardous reactions**

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid**

**Conditions to avoid** None known based on information supplied.

**Incompatible materials**

**Incompatible materials** None known based on information supplied.

**Incompatible materials** Strong acids. Strong bases. Strong oxidizing agents.

**Hazardous decomposition products**

**Hazardous Decomposition Products** None known based on information supplied.

## Section 11: TOXICOLOGICAL INFORMATION

**Acute toxicity**

**Information on likely routes of exposure**

**Product Information**

**Inhalation** Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.

**Eye contact** Specific test data for the substance or mixture is not available. Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes. (based on components).

**Skin contact** Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).

**Ingestion** Specific test data for the substance or mixture is not available Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea Harmful if swallowed (based on components)

**Symptoms** Redness. Burning. May cause blindness. May cause redness and tearing of the eyes.

**Numerical measures of toxicity - Product Information**

**The following values are calculated based on chapter 3.1 of the GHS document**

**ATEmix (oral)** 1,303.70 mg/kg
**ATEmix (dermal)** 16,587.60 mg/kg

**Unknown acute toxicity** 0 % of the mixture consists of ingredient(s) of unknown toxicity

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Triethanolamine | = 4190 mg/kg ( Rat ) | > 20000 mg/kg ( Rabbit ) | - |
| Diethanolamine | = 780 mg/kg ( Rat ) | = 11.9 mL/kg ( Rabbit ) | - |

*See section 16 for terms and abbreviations*

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** Classification based on data available for ingredients. Irritating to skin.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available. None known.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** Extended inhalation at levels above the workplace limit value can cause irreversible damage to the lungs (silicosis).

**Aspiration hazard** No information available.

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

**Ecotoxicity**

**Unknown aquatic toxicity** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---|---|---|---|---|
| Triethanolamine | EC50: =169mg/L (96h, Desmodesmus subspicatus)<br>EC50: =216mg/L (72h, Desmodesmus subspicatus) | LC50: 10600 - 13000mg/L (96h, Pimephales promelas)<br>LC50: 450 - 1000mg/L (96h, Lepomis macrochirus)<br>LC50: >1000mg/L (96h, Pimephales promelas) | - | - |
| Diethanolamine | EC50: 2.1 - 2.3mg/L (96h, Pseudokirchneriella subcapitata)<br>EC50: =7.8mg/L (72h, Desmodesmus subspicatus) | LC50: 1200 - 1580mg/L (96h, Pimephales promelas)<br>LC50: 4460 - 4980mg/L (96h, Pimephales promelas)<br>LC50: 600 - 1000mg/L (96h, Lepomis macrochirus) | EC50 = 73 mg/L 5 min<br>EC50 > 16 mg/L 16 h | EC50: =55mg/L (48h, Daphnia magna) |

**Persistence and degradability**

**Persistence and degradability** No information available.

| Component Information | | | |
|---|---|---|---|
| Diethanolamine (111-42-2) | | | |
| Method | Exposure time | Value | Results |
| OECD Test No. 301F: Ready Biodegradability: Manometric | 28 days | 93% | Readily biodegradable |

| | | | |
|---|---|---|---|
| Respirometry Test (TG 301 F) | | | |

**Bioaccumulative potential**

**Bioaccumulation** There is no data for this product.

**Component Information**

| Chemical name | Partition coefficient |
|---|---|
| Triethanolamine | -2.53 |
| Diethanolamine | -2.46 |

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

**Other adverse effects** No information available.

## Section 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## Section 14: TRANSPORT INFORMATION

**ADG** Not regulated

**IATA** Not Regulated

**IMDG** Not Regulated

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
No information available

## Section 15: REGULATORY INFORMATION

**Regulatory information**

**National regulations**

**Australia**
See section 8 for national exposure control parameters

**Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)**
No poisons schedule number allocated

**International Inventories**
**TSCA** Complies

| | |
|---|---|
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Complies |
| **ENCS** | Complies |
| **IECSC** | Complies |
| **PICCS** | Complies |
| **AICS** | Complies |
| **NZIoC** | Complies |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**Brunei Poison List** Not applicable.

## Section 16: ANY OTHER RELEVANT INFORMATION

**Issue Date** 08-Aug-2022

**Revision date** 08-Aug-2022

**Revision Note**
No information available.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

**Disclaimer**
**This document is provided as an information resource relating exclusively to the product or material described herein. The information contained herein may not be applicable to other products/ materials or processes and may not be valid when this product/material is used in combination with any other product/material or process. The information provided in this document is compiled by Newpark Drilling Fluids LLC or its representatives from various sources including manufacturers, suppliers and other third-party sources, and is based on the information available as of the indicated date of preparation. As the conditions under which this product could be used will vary and may not be within the control of Newpark Drilling Fluids LLC there is no guarantee that the precautions outlined above will be sufficient for all individuals or situations. The buyer assumes all responsibility for using and handling the product in accordance with federal, state, provincial, or local regulations. For the product/ material described in this document, NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.**

**End of Safety Data Sheet**

# Driscal® D Polymer

Version 1.10 Revision Date 2018-09-20

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product information**

Product Name : Driscal® D Polymer
Material : 1112534, 1016818

**Company** : Chevron Phillips Chemical Company LP
Drilling Specialties Company LLC
10001 Six Pines Drive
The Woodlands, TX 77380

Local : Chevron Phillips Chemicals Australia Pte Ltd
Suite 409
685 Burke Road
Camberwell, Victoria
Australia 3124
Hours of Operation: 9:00 a.m. - 5:00 p.m.

SDS Requests: 61 3 8080 5700
Technical Information: 61 3 8080 5700
Responsible Party: Product Safety Group
Email:sds@cpchem.com

**Emergency telephone:**

**Health**:
866.442.9628 (North America)
1.832.813.4984 (International)
61 3 8080 5700 (Australia)

**Transport**:
CHEMTREC 800.424.9300 or 703.527.3887(int'l)
Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Mexico CHEMTREC 01-800-681-9531 (24 hours)
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600
Argentina: +(54)-1159839431

| | | |
|---|---|---|
| Responsible Department | : | Product Safety and Toxicology Group |
| E-mail address | : | SDS@CPChem.com |
| Website | : | www.CPChem.com |

## SECTION 2: Hazards identification

**Classification of the substance or mixture**
**Model Work Health and Safety Regulations 2011, Model Code of Practice for the Labelling of Workplace Hazardous Chemicals (2011), Guidance on the Classification of Hazardous Chemicals under the WHS Regulations (2012) (GHS 2009)**

**Classification**

Not a hazardous substance or mixture.

**Labeling**

Not a hazardous substance or mixture.

## SECTION 3: Composition/information on ingredients

Synonyms : High Temperature Polymer

Contains no hazardous ingredients according to GHS.

## SECTION 4: First aid measures

| | | |
|---|---|---|
| General advice | : | No hazards which require special first aid measures. |
| If inhaled | : | If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician. |
| In case of eye contact | : | Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist. |
| If swallowed | : | Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. |

## SECTION 5: Firefighting measures

| | | |
|---|---|---|
| Flash point | : | Not applicable |
| Autoignition temperature | : | No data available |
| Specific hazards during fire fighting | : | Risks of ignition followed by flame propagation or secondary explosions can be caused by the accumulation of dust, e.g. on floors and ledges. |
| Special protective equipment for fire-fighters | : | Wear self-contained breathing apparatus for firefighting if necessary. |
| Further information | : | Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |

| | | |
|---|---|---|
| Fire and explosion protection | : | Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Provide appropriate exhaust ventilation at places where dust is formed. |
| Hazardous decomposition products | : | No data available. |

## SECTION 6: Accidental release measures

| | | |
|---|---|---|
| Personal precautions | : | Avoid dust formation. |
| Environmental precautions | : | If the product contaminates rivers and lakes or drains inform respective authorities. |
| Methods for cleaning up | : | Pick up and arrange disposal without creating dust. Clean up promptly by sweeping or vacuum. Keep in suitable, closed containers for disposal. |
| Additional advice | : | Contaminated surfaces will be extremely slippery. Avoid spillage on floor as the product can become very slippery when wet. Sweep up to prevent slipping hazard. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). |

## SECTION 7: Handling and storage

**Handling**

| | | |
|---|---|---|
| Advice on safe handling | : | For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary, but may not by themselves be sufficient. |
| Advice on protection against fire and explosion | : | Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Provide appropriate exhaust ventilation at places where dust is formed. |

**Storage**

| | | |
|---|---|---|
| Requirements for storage areas and containers | : | Electrical installations / working materials must comply with the technological safety standards. |
| Advice on common storage | : | No materials to be especially mentioned. |

## SECTION 8: Exposure controls/personal protection

**Engineering measures**

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

**Personal protective equipment**

| | | |
|---|---|---|
| Respiratory protection | : | Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as:. Air-Purifying Respirator for Dusts and Mists / P100. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection. |
| Hand protection | : | The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. |
| Eye protection | : | Eye wash bottle with pure water. Safety glasses. |
| Skin and body protection | : | Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate:. Protective suit. Safety shoes. |
| Hygiene measures | : | General industrial hygiene practice. |

## SECTION 9: Physical and chemical properties

**Information on basic physical and chemical properties**

**Appearance**

| | | |
|---|---|---|
| Form | : | Powder |
| Physical state | : | Solid |
| Color | : | White |
| Odor | : | No odor |
| Odor Threshold | : | No data available |

**Safety data**

| | | |
|---|---|---|
| Flash point | : | Not applicable |
| Lower explosion limit | : | No data available |
| Upper explosion limit | : | No data available |

| | | |
|---|---|---|
| Oxidizing properties | : | No |
| Autoignition temperature | : | No data available |
| Thermal decomposition | : | No data available |
| Molecular weight | : | Not applicable |
| pH | : | Not applicable |
| Pour point | : | No data available |
| Boiling point/boiling range | : | No data available |
| Vapor pressure | : | No data available |
| Relative density | : | 1.44 |
| Density | : | No data available |
| Water solubility | : | Soluble |
| Partition coefficient: n-octanol/water | : | Pow: < 3 |
| Viscosity, kinematic | : | No data available |
| Relative vapor density | : | No data available |
| Evaporation rate | : | No data available |

## SECTION 10: Stability and reactivity

**Chemical stability** : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Possibility of hazardous reactions**

**Hazardous reactions** : Hazardous reactions: Hazardous polymerization does not occur.

Further information: Stable under recommended storage conditions., No hazards to be specially mentioned.

**Conditions to avoid** : Generation of Dusts.

**Thermal decomposition** : No data available

**Hazardous decomposition products** : No data available

**Other data** : No decomposition if stored and applied as directed.

## SECTION 11: Toxicological information

**Driscal® D Polymer**
**Further information** : The product contains no substances classified as hazardous to health in concentrations which should be taken into account.

## SECTION 12: Ecological information

Biodegradability : Taking into consideration the properties of several ingredients, the product is estimated not to be readily biodegradable according to OECD classification.

Elimination information (persistence and degradability)

Bioaccumulation : Accumulation in aquatic organisms is unlikely.

Additional ecological information : This material is not expected to be harmful to aquatic organisms.

**Ecotoxicology Assessment**

## SECTION 13: Disposal considerations

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

## SECTION 14: Transport information

**The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).**

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

**US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)**
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)**
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))**
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))**
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)**
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

## SECTION 15: Regulatory information

**National legislation**

| | | |
|---|---|---|
| Standard for the Uniform Scheduling of Medicines and Poisons | : | No poison schedule number allocated |

**Notification status**

| | | |
|---|---|---|
| Europe REACH | : | On the inventory, or in compliance with the inventory |
| Switzerland CH INV | : | On the inventory, or in compliance with the inventory |
| United States of America (USA) TSCA | : | On TSCA Inventory |
| Canada DSL | : | All components of this product are on the Canadian DSL |
| Australia AICS | : | On the inventory, or in compliance with the inventory |
| New Zealand NZIoC | : | On the inventory, or in compliance with the inventory |
| Japan ENCS | : | Not in compliance with the inventory |
| Korea KECI | : | Not in compliance with the inventory |
| Philippines PICCS | : | Not in compliance with the inventory |
| China IECSC | : | This product contains one or more substances that have been notified under New Substances Notification |

laws. However, only CPChem and other independent notifiers are approved to be the importers of record.

## SECTION 16: Other information

**Further information**

Legacy SDS Number : 244990

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

| Key or legend to abbreviations and acronyms used in the safety data sheet | | | |
|---|---|---|---|
| ACGIH | American Conference of Government Industrial Hygienists | LD50 | Lethal Dose 50% |
| AICS | Australia, Inventory of Chemical Substances | LOAEL | Lowest Observed Adverse Effect Level |
| DSL | Canada, Domestic Substances List | NFPA | National Fire Protection Agency |
| NDSL | Canada, Non-Domestic Substances List | NIOSH | National Institute for Occupational Safety & Health |
| CNS | Central Nervous System | NTP | National Toxicology Program |
| CAS | Chemical Abstract Service | NZIoC | New Zealand Inventory of Chemicals |
| EC50 | Effective Concentration | NOAEL | No Observable Adverse Effect Level |
| EC50 | Effective Concentration 50% | NOEC | No Observed Effect Concentration |
| EGEST | EOSCA Generic Exposure Scenario Tool | OSHA | Occupational Safety & Health Administration |
| EOSCA | European Oilfield Specialty Chemicals Association | PEL | Permissible Exposure Limit |
| EINECS | European Inventory of Existing Chemical Substances | PICCS | Philippines Inventory of Commercial Chemical Substances |
| MAK | Germany Maximum Concentration Values | PRNT | Presumed Not Toxic |
| GHS | Globally Harmonized System | RCRA | Resource Conservation Recovery Act |
| >= | Greater Than or Equal To | STEL | Short-term Exposure Limit |
| IC50 | Inhibition Concentration 50% | SARA | Superfund Amendments and Reauthorization Act. |
| IARC | International Agency for Research on Cancer | TLV | Threshold Limit Value |
| IECSC | Inventory of Existing Chemical Substances in China | TWA | Time Weighted Average |
| ENCS | Japan, Inventory of Existing and New Chemical Substances | TSCA | Toxic Substance Control Act |
| KECI | Korea, Existing Chemical Inventory | UVCB | Unknown or Variable Composition, Complex Reaction Products, and Biological Materials |
| <= | Less Than or Equal To | WHMIS | Workplace Hazardous Materials Information System |
| LC50 | Lethal Concentration 50% | | |

# SAFETY DATA SHEET

## CleanTrol™

**Issue Date** 21-Feb-2020 **Revision Date** 25-May-2021 **Version** 1.1

## 1. IDENTIFICATION



**Product identifier**

**Product Name** CleanTrol™

**Other means of identification**

**Product Code** NDF00508

**Synonyms** None

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Fluid loss control additive

**Uses advised against** No information available

**Details of the supplier of the safety data sheet**

**Supplier**
Newpark Drilling Fluids LLC
21920 Merchants Way
Katy, Texas 77449
Telephone: +1 (800) 444-0682
http://www.newpark.com

**Emergency telephone number**

**Emergency Telephone** Chemtrec - US +1 (800) 424-9300
Chemtrec - International +1 (703) 527-3887

## 2. HAZARDS IDENTIFICATION

**Classification**

**Label elements**

**Hazard statements**

The product contains no substances which at their given concentration, are considered to be hazardous to health.

| **Appearance** Powder | **Physical state** Solid | **Odor** No information available |
|---|---|---|

**Other Information**

**Unknown acute toxicity** 0 % of the mixture consists of ingredient(s) of unknown toxicity

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**

| Chemical name | CAS No. | Weight-% | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|---|---|---|---|---|
| Starch | 9005-25-8 | 100 | - | - |

## 4. FIRST AID MEASURES

**Description of first aid measures**

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical** No information available.

**Hazardous combustion products** Carbon oxides.

**Explosion data**

**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** None.

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Limits**

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| Starch<br>9005-25-8 | TWA: 10 mg/m³ | TWA: 15 mg/m³ total dust<br>TWA: 5 mg/m³ respirable fraction<br>(vacated) TWA: 15 mg/m³ total dust<br>(vacated) TWA: 5 mg/m³ respirable fraction | TWA: 10 mg/m³ total dust<br>TWA: 5 mg/m³ respirable dust |

| Chemical name | Alberta | British Columbia | Ontario TWA | Quebec |
|---|---|---|---|---|
| Starch<br>9005-25-8 | TWA: 10 mg/m³ | TWA: 10 mg/m³<br>TWA: 3 mg/m³ | TWA: 10 mg/m³ | TWA: 10 mg/m³ |

**Other Information** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Appropriate engineering controls**

**Engineering controls** Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** No special protective equipment required.

**Skin and body protection** No special protective equipment required.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical state** | Solid | | |
| **Appearance** | Powder | **Color** | Off-white |
| **Odor** | No information available | **Odor threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 5 - 11.5 (in 4% solution) | |
| **Melting point / freezing point** | | No information available |
| **Boiling point / boiling range** | | No information available |
| **Flash point** | | Not applicable |
| **Evaporation rate** | | No information available |
| **Flammability (solid, gas)** | | No information available |
| **Flammability Limit in Air** | | No information available |
| **Upper flammability limit:** | | |
| **Lower flammability limit:** | | |
| **Vapor pressure** | | No information available |
| **Vapor density** | | No information available |
| **Specific Gravity** | 1.5 | No information available |
| **Water solubility** | | No information available |
| **Solubility in other solvents** | | No information available |
| **Partition coefficient** | | No information available |
| **Autoignition temperature** | | No information available |
| **Decomposition temperature** | | No information available |
| **Kinematic viscosity** | | Not applicable |
| **Dynamic viscosity** | | Not applicable |
| **Explosive properties** | Not an explosive | |
| **Oxidizing properties** | No information available | |

**Other Information**

| | |
|---|---|
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC Content (%)** | No information available |
| **Liquid Density** | No information available |
| **Bulk density** | No information available |

## 10. STABILITY AND REACTIVITY

**Reactivity** No information available.

**Chemical stability** Stable under normal conditions.

**Possibility of Hazardous Reactions** None under normal processing.

**Conditions to avoid** None known based on information supplied.

**Incompatible materials** None known based on information supplied.

**Hazardous Decomposition Products** None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**

**Inhalation** Specific test data for the substance or mixture is not available.

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available.

**Information on toxicological effects**

**Symptoms** No information available.

**Numerical measures of toxicity**

**Acute toxicity**

**Unknown acute toxicity** 0 % of the mixture consists of ingredient(s) of unknown toxicity
0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target Organ Effects** Eyes, Respiratory system, Skin.

**Aspiration hazard** No information available.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Persistence and degradability** No information available.

**Bioaccumulation** No information available.

**Other adverse effects** No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## 14. TRANSPORT INFORMATION

**DOT** Not Regulated

**TDG** Not Regulated

**MEX** Not Regulated

**IATA** Not Regulated

**IMDG** Not Regulated

## 15. REGULATORY INFORMATION

**Regulatory information**

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Complies |
| **ENCS** | Complies |

| | |
|---|---|
| **IECSC** | Complies |
| **KECL** | Complies |
| **PICCS** | Complies |
| **AICS** | Complies |
| **NZIoC** | Complies |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals

**US Federal Regulations**

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Acute health hazard** | No |
| **Chronic Health Hazard** | No |
| **Fire hazard** | No |
| **Sudden release of pressure hazard** | No |
| **Reactive Hazard** | No |

**CWA (Clean Water Act)**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**US State Regulations**

**California Proposition 65**
This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

**US State Regulations**

| Chemical name | New Jersey | Massachusetts | Pennsylvania |
|---|---|---|---|
| Starch<br>9005-25-8 | - | X | X |

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

## 16. OTHER INFORMATION

| | | | | |
|---|---|---|---|---|
| **NFPA** | **Health hazards** 0 | **Flammability** 0 | **Instability** 0 | **Physical and chemical properties** - |
| **HMIS** | **Health hazards** 0 | **Flammability** 0 | **Physical hazards** 0 | **Personal protection** X |

**Issue Date** 21-Feb-2020

**Revision Date** 25-May-2021

**Revision Note** No information available.

**Disclaimer**

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**End of Safety Data Sheet**

# SAFETY DATA SHEET

## GageTrol™

**Issue Date** 15-Mar-2017 **Revision date** 23-Mar-2022 **Version** 1.1
EN

## Section 1: IDENTIFICATION: PRODUCT INDENTIFIER AND CHEMICAL IDENTITY

**Product identifier**

**Product Name** GageTrol™

**Product Code** NDF00018

**Other means of identification**

**Pure substance/mixture** Substance

**Recommended use of the chemical and restrictions on use**

**Recommended Use** filtration control agent

**Uses advised against** No information available

**Details of manufacturer or importer**

**Supplier**
Newpark Drilling Fluids (Australia) LTD
11 Alacrity Place
Henderson, WA, 6166
Australia

For further information, please contact

**Contact Point** Telephone: +61 8 9410 8200
Fax: +61 8 9410 8299
Website: www.newpark.com

**Emergency telephone number**

Emergency telephone number +(61)-290372994 (Australia); +(64)-98010034 (New Zealand)

## Section 2: HAZARD(S) IDENTIFICATION

**GHS - Classification**

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Label elements**

**Hazard statements**
Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Other hazards which do not result in classification**

**General Hazards**

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII

## Section 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8

**Substance**

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Non-hazardous ingredients | - | 100 |

## Section 4: FIRST AID MEASURES

**Description of first aid measures**

**Emergency telephone number** Poisons Information Center, Australia: 13 11 26
Poisons Information Center, New Zealand: 0800 764 766

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## Section 5: FIREFIGHTING MEASURES

**Suitable Extinguishing Media**

**Suitable extinguishing media** Dry chemical, CO2, water spray or regular foam.

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Do not allow run-off from fire-fighting to enter drains or water courses.

**Hazardous combustion products** Carbon oxides.

**Special protective actions for fire-fighters**

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**Hazchem code** Not Listed.

## Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Precautions to prevent secondary hazards**

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## Section 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid generation of dust. Wash thoroughly after handling. Wash contaminated clothing before reuse.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible materials** Strong oxidizing agents Strong acids

## Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Control parameters**

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Biological occupational exposure limits** Not applicable

**Appropriate engineering controls**

**Engineering controls** Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear suitable protective clothing.

**Respiratory protection** In case of inadequate ventilation wear respiratory protection.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical state** | Solid | | |
| **Appearance** | Powder | **Odor** | Slight. |
| **Color** | Off-white | **Odor threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 9.0 - 10.5 | 4% solution |
| **Melting point / freezing point** | | Not applicable |
| **Boiling point / boiling range** | | Not applicable |
| **Flash point** | | Not applicable |
| **Evaporation rate** | | No information available |
| **Flammability (solid, gas)** | | No information available |
| **Flammability Limit in Air** | | No information available |
| **Upper flammability limit:** | | No data available |
| **Lower flammability limit:** | | No data available |
| **Vapor pressure** | | No data available |
| **Vapor density** | | No data available |
| **Relative density** | 1.5 | |
| **Water solubility** | Soluble in water | |
| **Solubility(ies)** | | No information available |
| **Partition coefficient** | | No information available |
| **Autoignition temperature** | | No information available |
| **Hyphen** | | No information available |
| **Kinematic viscosity** | | Not applicable |
| **Dynamic viscosity** | | Not applicable |

**Other information**

| | |
|---|---|
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC Content (%)** | No information available |
| **Liquid Density** | No information available |
| **Bulk density** | 30-45 lb/ft3 (480-720 kg/$m^3$) |
| **Particle Size** | No information available |
| **Particle Size Distribution** | No information available |

## Section 10: STABILITY AND REACTIVITY

**Reactivity**

**Reactivity** No information available.

**Chemical stability**

**Stability** Stable under normal conditions.

**Explosion data**

**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** None.

**Possibility of hazardous reactions**

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid**

**Conditions to avoid** None known based on information supplied.

**Incompatible materials**

**Incompatible materials** Strong oxidizing agents. Strong acids.

**Hazardous decomposition products**

**Hazardous Decomposition Products** None known based on information supplied.

## Section 11: TOXICOLOGICAL INFORMATION

**Acute toxicity**

**Information on likely routes of exposure**

**Product Information** .

**Inhalation** Specific test data for the substance or mixture is not available.

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available

**Symptoms** No information available.

**Numerical measures of toxicity - Product Information**

**Unknown acute toxicity** 100 % of the mixture consists of ingredient(s) of unknown toxicity
100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

*See section 16 for terms and abbreviations*

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Unknown aquatic toxicity** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

**Persistence and degradability**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

**Other adverse effects** No information available.

## Section 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## Section 14: TRANSPORT INFORMATION

**ADG** Not regulated

**IATA** Not Regulated

**IMDG** Not Regulated

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
No information available

## Section 15: REGULATORY INFORMATION

**Regulatory information**

**National regulations**

**Australia**
See section 8 for national exposure control parameters

**Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)**
No poisons schedule number allocated

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Complies |
| **ENCS** | Complies |
| **IECSC** | Complies |
| **PICCS** | Complies |
| **AICS** | Complies |
| **NZIoC** | Complies |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**Brunei Poison List** Not applicable.

## Section 16: ANY OTHER RELEVANT INFORMATION

**Issue Date** 15-Mar-2017

**Revision date** 23-Mar-2022

**Revision Note**
No information available.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

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**End of Safety Data Sheet**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **JK-161 LV**

**Synonyms** JK - 161 LV ● LOW MOLECULAR WEIGHT PHPA ● PARTIALLY HYDROLYZED POLYACRYLAMIDE ● PHPA

### 1.2 Uses and uses advised against

**Uses** ENCAPSULATING AGENT ● HIGH PERFORMANCE WBM

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| ACRYLAMIDE, SODIUM ACRYLATE COPOLYMER | 25085-02-3 | 607-529-1 | >90% |
| WATER | 7732-18-5 | 231-791-2 | Remainder |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed
See Section 11 for more detailed information on health effects and symptoms.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve toxic gases (carbon/ nitrogen oxides, amines, ammonia, hydrocarbons) when heated to decomposition.

### 5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled and tightly closed when not in use.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Acrylamide | SWA [AUS] | -- | 0.03 | -- | -- |

**Biological limits** No Biological Limit Value allocated.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | WHITE GRANULAR SOLID |
| **Odour** | ODOURLESS |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | NOT AVAILABLE |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 0.8 |
| **Solubility (water)** | 10 g/L |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve toxic gases (carbon/ nitrogen oxides, amines, ammonia, hydrocarbons) when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

| | |
|---|---|
| **Acute toxicity** | This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated. LD50 rat (oral): > 2,000 mg/kg (OECD Guideline 401). |
| **Skin** | Low irritant. Prolonged or repeated contact may result in mild irritation, rash and dermatitis. |
| **Eye** | Low to moderate irritant. Contact may result in mild irritation, lacrimation and redness. |
| **Sensitisation** | Not classified as causing skin or respiratory sensitisation. However, allergic reactions are possible. |
| **Mutagenicity** | Not classified as a mutagen. |
| **Carcinogenicity** | This product may contain trace amounts of residual acrylamide, which is classified as a probable human carcinogen (IARC Group 2A). However, due to the very low levels present, adverse health effects are not anticipated with normal use. |
| **Reproductive** | Not classified as a reproductive toxin. |
| **STOT - single exposure** | Not classified as causing organ damage from single exposure. |
| **STOT - repeated exposure** | Not classified as causing organ damage from repeated exposure. |
| **Aspiration** | Not classified as causing aspiration. |

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

(10000 ppm test concentration) (EPA-821-R-02-012)
Mysidopsis bahia = 48hr LC50 = 16.2 mg/L.
Menidia beryllina = 48hr LC50 = 34.2 mg/L.
Scophthalmus Maximus = 96hr LC50 > 1000 mg/L.
Skeletonemia costatum = 72hr EC50 = 393 mg/L [NOEC = 118 mg/L]
Acartia tonsa = 48 hr EC50 = 393 mg/L [NOEC = 112 mg/L]
Corophium Volutator = 10 Day LC50 = 9338 mg/Kg [NOEC = 1000 mg/Kg

### 12.2 Persistence and degradability

Not readily biodegradable (by OECD criteria).

### 12.3 Bioaccumulative potential

Based on its structural properties, the polymer is not biologically available. Accumulation in organisms is not to be expected.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

| | |
|---|---|
| **Waste disposal** | Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required). |
| **Legislation** | Dispose of in accordance with relevant local legislation. |

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

ACRYLIC - ACRYLAMIDE RESINS: These resins are generally of low toxicity. Toxicity increases with presence of significant concentrations of acrylic - acrylamide monomers. These monomers have been linked with the development of skin sensitisation.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **JK-261 HP**

**Synonyms** RHEOCHEM JK 261 HP

### 1.2 Uses and uses advised against

**Uses** DRILLING FLUID

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| ADIPIC ACID | 124-04-9 | 204-673-3 | <2.5% |
| SULPHAMIC ACID | 5329-14-6 | 226-218-8 | <2.5% |
| ACRYLAMIDE-ACRYLOXY ETHYL TRIMETHYL AMM. CHLORIDE | 69418-26-4 | - | >60% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** None allocated.

### 4.2 Most important symptoms and effects, both acute and delayed
Adverse effects not expected from this product under normal conditions of use.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve toxic gases if strongly heated. May evolve nitrogen oxides and hydrogen chloride gas when heated to decomposition.

### 5.3 Advice for firefighters
No fire or explosion hazard exists.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store between 0°C and 35°C. Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure packages are adequately labelled, protected from physical damage and sealed when not in use.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Acrylamide | SWA [AUS] | -- | 0.03 | -- | -- |

**Biological limits**
No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | WHITE GRANULAR SOLID |
| **Odour** | ODOURLESS |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 2.5 to 4.5 (5 g/L solution) |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | NOT AVAILABLE |
| **Solubility (water)** | SOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

### 9.2 Other information

| | |
|---|---|
| **% Volatiles** | 0.85 |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization will not occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid) and alkalis (e.g. sodium hydroxide).

### 10.6 Hazardous decomposition products

May evolve nitrogen oxides and hydrogen chloride gas when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated. Oral LD50 (rat) is > 5000 mg/kg.

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| ADIPIC ACID | 1900 mg/kg (mouse); 5560 mg/kg (rat) | > 2000 mg/kg (rabbit) | >7.7 mg/L (rat) |
| SULPHAMIC ACID | 3160 mg/kg (rat) | -- | -- |

**Additional ingredient toxicity values:**

ADIPIC ACID (124-04-9)

| | |
|---|---|
| LD50 (intraperitoneal) | 275 mg/kg (rat) |
| LD50 (intravenous) | 680 mg/kg (mouse) |
| LDLo (oral) | 3600 mg/kg (rat) |

SULPHAMIC ACID (5329-14-6)

| | |
|---|---|
| LDLo (intraperitoneal) | 100 mg/kg (rat) |

**Skin** Not classified as a skin irritant. Contact may result in mild irritation.

**Eye** Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** No evidence of mutagenic effects.

**Carcinogenicity** No evidence of carcinogenic effects.

**Reproductive** No relevant or reliable studies were identified.

**STOT - single exposure** No known effects from this product.

**STOT - repeated exposure** No known effects from this product.

**Aspiration** This product does not present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

The effects of this product on aquatic organisms are rapidly and significantly mitigated by the presence of dissolved organic carbon in the aquatic environment. Toxicity to daphnia: EC50/Daphnia/48 hours > 20-50 mg/L

### 12.2 Persistence and degradability

No information provided.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities. Not expected to bioaccumulate.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **JK-261**

**Synonyms** HIGH MOLECULAR WEIGHT PHPA ● JK 261 ● JK261 ● PARTIALLY HYDROLYZED POLYACRYLAMIDE ● PHPA

### 1.2 Uses and uses advised against

**Uses** DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| COPOLYMER OF ACRYLAMIDE AND ACRYLIC ACID, SODIUM SALT | 25987-30-8 | 607-842-3 | >90% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed
See Section 11 for more detailed information on health effects and symptoms.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve toxic gases (carbon/ nitrogen oxides, amines, ammonia, hydrocarbons) when heated to decomposition.

### 5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled and tightly closed when not in use.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits** No Biological Limit Value allocated.

### 8.2 Exposure controls
**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | WHITE GRANULAR SOLID |
| **Odour** | SLIGHT ODOUR |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | NOT AVAILABLE |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 0.8 |
| **Solubility (water)** | 10 g/L |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve toxic gases (carbon/ nitrogen oxides, amines, ammonia, hydrocarbons) when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects

| | |
|---|---|
| | are not anticipated. LD50 rat (oral): > 2,000 mg/kg (OECD Guideline 401). |
| **Skin** | Not classified as a skin irritant. Prolonged or repeated contact may result in mild irritation, rash and dermatitis. |
| **Eye** | Not classified as an eye irritant. Contact may result in mild irritation, lacrimation and redness. |
| **Sensitisation** | Not classified as causing skin or respiratory sensitisation. |
| **Mutagenicity** | Insufficient data available to classify as a mutagen. |
| **Carcinogenicity** | Not classified as a carcinogen. This product may contain trace amounts of residual acrylamide, which is classified as a probable human carcinogen (IARC Group 2A). However, due to the very low levels present, adverse health effects are not anticipated with normal use. |
| **Reproductive** | Insufficient data available to classify as a reproductive toxin. |
| **STOT - single exposure** | Not classified as causing organ damage from single exposure. |
| **STOT - repeated exposure** | Not classified as causing organ damage from repeated exposure. |
| **Aspiration** | Not expected to present an aspiration hazard. |

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

(10000 ppm test concentration) (EPA-821-R-02-012)
Mysidopsis bahia = 48hr LC50 = 16.2 mg/L.
Menidia beryllina = 48hr LC50 = 34.2 mg/L.
Scophthalmus Maximus = 96hr LC50 > 1000 mg/L.
Skeletonemia costatum = 72hr EC50 = 393 mg/L [NOEC = 118 mg/L]
Acartia tonsa = 48 hr EC50 = 393 mg/L [NOEC = 112 mg/L]
Corophium Volutator = 10 Day LC50 = 9338 mg/Kg [NOEC = 1000 mg/Kg

### 12.2 Persistence and degradability

Not readily biodegradable (by OECD criteria).

### 12.3 Bioaccumulative potential

Based on its structural properties, the polymer is not biologically available. Accumulation in organisms is not to be expected.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

| | |
|---|---|
| **Waste disposal** | Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required). |
| **Legislation** | Dispose of in accordance with relevant local legislation. |

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

### 14.5 Environmental hazards

No information provided.

### 14.6 Special precautions for user

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

ACRYLIC - ACRYLAMIDE RESINS: These resins are generally of low toxicity. Toxicity increases with presence of significant concentrations of acrylic - acrylamide monomers. These monomers have been linked with the development of skin sensitisation.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **DEFOAM AP 400**

**Synonyms** DEFOAMER

### 1.2 Uses and uses advised against

**Uses** TREATMENT OF FOAMING IN DRILLING FLUIDS

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| POLYETHYLENE GLYCOL | 25322-68-3 | 500-038-2 | 45 to 60% |
| OCTAN-2-OL | 123-96-6 | 204-667-0 | 40 to 55% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).

**First aid facilities** None allocated.

### 4.2 Most important symptoms and effects, both acute and delayed
Adverse effects not expected from this product under normal conditions of use.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve carbon oxides and hydrocarbons when heated to decomposition.

### 5.3 Advice for firefighters
Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Eliminate all sources of ignition.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate ventilation systems.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear splash-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Type A (Organic vapour) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | CLEAR COLOURLESS LIQUID |
| **Odour** | ODOURLESS |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | 100°C to 102°C |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 7 to 8 |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 1.00 to 1.17 |
| **Solubility (water)** | SOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

### 9.2 Other information

| | |
|---|---|
| **Freezing point** | -7°C to 0°C |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), heat and ignition sources.

### 10.6 Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated.

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| POLYETHYLENE GLYCOL | > 15,000 mg/kg (rat) | > 20,000 mg/kg (rabbit) | -- |
| OCTAN-2-OL | -- | 2000 mg/kg (rat) | -- |

**Skin** Not classified as a skin irritant. Contact may cause temporary mild skin irritation.

**Eye** Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Not classified as a mutagen.

**Carcinogenicity** Not classified as a carcinogen.

**Reproductive** Not classified as a reproductive toxin.

**STOT - single exposure** Not classified as causing organ damage from single exposure.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** Not classified as causing aspiration.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

No information provided.

### 12.2 Persistence and degradability

No information provided.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

# SAFETY DATA SHEET

## AVADEFOAM NS

**Issue Date** 18-Apr-2017 **Revision Date** 28-Mar-2019 **Version** 1
EN

## Section 1: IDENTIFICATION: PRODUCT INDENTIFIER AND CHEMICAL IDENTITY

1

**Product identifier**

**Product Name** AVADEFOAM NS

**Product Code** NDF00251

**Other means of identification**

**Pure substance/mixture** Mixture

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Defoamer

**Uses advised against** No information available

**Details of manufacturer or importer**

**Supplier**
Newpark Drilling Fluids (Australia) LTD
11 Alacrity Place
Henderson, WA, 6166
Australia

For further information, please contact

**Contact Point** Telephone: +61 8 9410 8200
Fax: +61 8 9410 8299
Website: www.newpark.com

**Emergency telephone number**

Emergency telephone number +(61)-290372994 (Australia); +(64)-98010034 (New Zealand)

## Section 2: HAZARD(S) IDENTIFICATION

**GHS - Classification**

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Label elements**

**Hazard statements**
Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Other hazards**

**General Hazards**

No information available

## Section 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8

**Substance**

Not applicable

**Mixture**

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Non-hazardous ingredients | Proprietary | |

## Section 4: FIRST AID MEASURES

**Description of first aid measures**

**Emergency telephone number** Poisons Information Center, Australia: 13 11 26
Poisons Information Center, New Zealand: 0800 764 766

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## Section 5: FIREFIGHTING MEASURES

**Suitable Extinguishing Media**

**Suitable extinguishing media** Water. Carbon dioxide (CO2).

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Do not allow run-off from fire-fighting to enter drains or water courses.

**Hazardous combustion products** Carbon oxides.

**Special protective actions for fire-fighters**

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**Hazchem code** Not Listed.

## Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Precautions to prevent secondary hazards**

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## Section 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Wash contaminated clothing before reuse.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible materials** None known

## Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Control parameters**

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Biological occupational exposure limits** Not applicable

**Appropriate engineering controls**

**Engineering controls** Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear suitable protective clothing.

**Respiratory protection** In case of inadequate ventilation wear respiratory protection.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical state** | Liquid | | |
| **Appearance** | liquid | **Odor** | Slight. |
| **Color** | clear | **Odor threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | | No data available |
| **Melting point / freezing point** | | No data available |
| **Boiling point / boiling range** | | No data available |
| **Flash point** | > 100 °C | |
| **Evaporation rate** | | No data available |
| **Flammability (solid, gas)** | | Not applicable |
| **Flammability Limit in Air** | | No information available |
| **Upper flammability limit:** | | No data available |
| **Lower flammability limit:** | | No data available |
| **Vapor pressure** | | No data available |
| **Vapor density** | | No data available |
| **Relative density** | 0.95-0.97 | |
| **Water solubility** | Insoluble in water | |
| **Solubility(ies)** | | No data available |
| **Partition coefficient** | | No data available |
| **Autoignition temperature** | | No data available |
| **Decomposition temperature** | | No data available |
| **Kinematic viscosity** | | No data available |
| **Dynamic viscosity** | | No data available |

**Other Information**

| | |
|---|---|
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC Content (%)** | No information available |
| **Liquid Density** | 0.95-0.97 g/cm3 |
| **Bulk density** | No information available |
| **Particle Size** | No information available |
| **Particle Size Distribution** | No information available |

## Section 10: STABILITY AND REACTIVITY

**Reactivity**

**Reactivity** No information available.

**Chemical stability**

**Stability** Stable under normal conditions.

**Explosion data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Possibility of Hazardous Reactions**

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid**

**Conditions to avoid** None known based on information supplied.

**Incompatible materials**

**Incompatible materials** None known.

**Hazardous Decomposition Products**

**Hazardous Decomposition Products** None known based on information supplied.

## Section 11: TOXICOLOGICAL INFORMATION

**Acute toxicity**

**Information on likely routes of exposure**

**Product Information** .

**Inhalation** Specific test data for the substance or mixture is not available.

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available

**Symptoms** No information available.

**Numerical measures of toxicity - Product Information**

**The following values are calculated based on chapter 3.1 of the GHS document**
**ATEmix (oral)** 10,010.00 mg/kg

**Unknown acute toxicity** 100 % of the mixture consists of ingredient(s) of unknown toxicity
95 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

*See section 16 for terms and abbreviations*

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Unknown aquatic toxicity** 95 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

**Persistence and degradability**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

**Other adverse effects** No information available.

## Section 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## Section 14: TRANSPORT INFORMATION

**ADG** Not regulated

**IATA** Not regulated

**IMDG** Not regulated

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
No information available

## Section 15: REGULATORY INFORMATION

**Regulatory information**

**National regulations**

**Australia**
See section 8 for national exposure control parameters

**Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)**
No poisons schedule number allocated

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Complies |
| **ENCS** | Does not comply |
| **IECSC** | Complies |
| **KECL** | Complies |
| **PICCS** | Does not comply |
| **AICS** | Complies |
| **NZIoC** | Complies |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals

**International Regulations**

**Ozone-depleting substances (ODS)** Not applicable

**Persistent Organic Pollutants** Not applicable

**Export Notification requirements** Not applicable

## Section 16: ANY OTHER RELEVANT INFORMATION

**Issue Date** 18-Apr-2017

**Revision Date** 28-Mar-2019

**Revision Note**
No information available.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

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**End of Safety Data Sheet**

# SAFETY DATA SHEET

## AVAPERM NF

**Issue Date** 29-Jul-2016 **Revision Date** 08-Feb-2018 **Version** 1
EN

## Section 1: IDENTIFICATION: PRODUCT INDENTIFIER AND CHEMICAL IDENTITY

**Product identifier**

**Product Name** AVAPERM NF

**Product Code** NDF00185

**Other means of identification**

**Pure substance/mixture** Mixture

**Recommended use of the chemical and restrictions on use**

**Recommended Use** shale inhibitor

**Uses advised against** No information available

**Details of manufacturer or importer**

**Supplier**
Newpark Drilling Fluids (Australia) LTD
11 Alacrity Place
Henderson, WA, 6166
Australia

For further information, please contact

**Contact Point** Telephone: +61 8 9410 8200
Fax: +61 8 9410 8299
Website: www.newpark.com

**Emergency telephone number**

Emergency telephone number 1800 127 406 (Australia); +64 4 917 9888 (International)

## Section 2: HAZARD(S) IDENTIFICATION

**GHS - Classification**

| | |
|---|---|
| **Acute toxicity - Oral** | Category 4 - (H302) |
| **Acute toxicity - Dermal** | Category 4 - (H312) |
| **Skin corrosion/irritation** | Category 2 - (H315) |
| **Serious eye damage/eye irritation** | Category 1 - (H318) |
| **Skin sensitization** | Category 1B - (H317) |
| **Specific target organ toxicity (single exposure)** | Category 3 - (H335) |

**Label elements**

**Signal word**
Danger

**Hazard statements**
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H335 - May cause respiratory irritation

**Precautionary Statements - Prevention**
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
Contaminated work clothing should not be allowed out of the workplace
Use only outdoors or in a well-ventilated area
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN: Wash with plenty of soap and water
Call a POISON CENTER or doctor/physician if you feel unwell
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
**Precautionary Statements - Storage**
Store in a well-ventilated place. Keep container tightly closed
Store locked up
**Precautionary Statements - Disposal**
Dispose of contents/container to an approved waste disposal plant

**Other hazards**
May be harmful in contact with skin
**General Hazards**
No information available

## Section 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8

**Substance**

Not applicable

**Mixture**

| Chemical Name | CAS No | Weight-% |
|---|---|---|
| Hexanedinitrile, hydrogenated, high-boiling fraction | 68411-90-5 | 30-50 |
| Hydrochloric acid | 7647-01-0 | <15 |
| Non-hazardous ingredients | Proprietary | Balance |

## Section 4: FIRST AID MEASURES

**Description of first aid measures**

**Emergency telephone number** Poisons Information Center, Australia: 13 11 26
Poisons Information Center, New Zealand: 0800 764 766

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation or rash occurs: Get medical advice/attention.

**Ingestion** Do not induce vomiting without medical advice. Get medical attention if symptoms occur.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## Section 5: FIREFIGHTING MEASURES

**Suitable Extinguishing Media**

**Suitable extinguishing media**
Dry chemical, CO2, water spray or alcohol-resistant foam.

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Do not allow run-off from fire-fighting to enter drains or water courses.

**Hazardous combustion products** Carbon oxides. Nitrogen oxides (NOx). Hydrogen chloride.

**Special protective actions for fire-fighters**

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**Hazchem code** Not Listed.

## Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Precautions to prevent secondary hazards**

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## Section 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

**Precautions for safe handling**

**Advice on safe handling** Wash contaminated clothing before reuse. Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible materials** Strong oxidizing agents Aldehydes Halogens Acids Ketone Nitrates Halogenated compounds Phenols Isocyanates

## Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Control parameters**

**Exposure Limits** .

| Chemical Name | Australia |
|---|---|
| Hydrochloric acid<br>7647-01-0 | 5 ppm Peak<br>7.5 mg/m$^3$ Peak |

**Biological occupational exposure limits** Not applicable

**Appropriate engineering controls**

**Engineering controls** Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear suitable protective clothing.

**Hand protection** Wear suitable gloves tested to EN 374.

**Respiratory protection** In case of inadequate ventilation wear respiratory protection.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical state** | Liquid | | |
| **Appearance** | liquid | **Odor** | Pungent. |
| **Color** | brown | **Odor threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 9 - 10 | |
| **Melting point / freezing point** | | No information available |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | > 100 °C | |
| **Evaporation rate** | | No information available |
| **Flammability (solid, gas)** | | Not applicable |
| **Flammability Limit in Air** | | Not applicable |
| **Upper flammability limit:** | | Not applicable |
| **Lower flammability limit:** | | Not applicable |
| **Vapor pressure** | | No data available |
| **Vapor density** | | No data available |
| **Relative density** | 1.00-1.10 | |
| **Water solubility** | Soluble in water | |
| **Solubility(ies)** | | No information available |
| **Partition coefficient** | | No information available |
| **Autoignition temperature** | | No information available |
| **Decomposition temperature** | | No information available |
| **Kinematic viscosity** | | |
| **Dynamic viscosity** | | |

**Other Information**

| | |
|---|---|
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC Content (%)** | No information available |
| **Density** | 1.00-1.10 g/cm3 |
| **Bulk density** | No information available |
| **Particle Size** | No information available |
| **Particle Size Distribution** | No information available |

## Section 10: STABILITY AND REACTIVITY

**Reactivity**

**Reactivity** Stable under normal conditions.

**Chemical stability**

**Stability** Stable under normal conditions.

**Explosion data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Possibility of Hazardous Reactions**

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid**

**Conditions to avoid** None known based on information supplied.

**Incompatible materials**

**Incompatible materials** Strong oxidizing agents. Aldehydes. Halogens. Acids. Ketone. Nitrates. Halogenated compounds. Phenols. Isocyanates.

**Hazardous Decomposition Products**

**Hazardous Decomposition Products** None known based on information supplied.

## Section 11: TOXICOLOGICAL INFORMATION

**Acute toxicity**

**Information on likely routes of exposure**

**Product Information** .

**Inhalation** Specific test data for the substance or mixture is not available.

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available

**Symptoms** No information available.

**Numerical measures of toxicity - Product Information**

**The following values are calculated based on chapter 3.1 of the GHS document**

**ATEmix (oral)** 768.00 mg/kg
**ATEmix (dermal)** 2,985.00 mg/kg
**ATEmix (inhalation-gas)** 2,859.84 ppm
**ATEmix (inhalation-dust/mist)** 2.54 mg/l

**Unknown acute toxicity** 47 % of the mixture consists of ingredient(s) of unknown toxicity
0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
47 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Component Information**

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Hexanedinitrile, hydrogenated, high-boiling fraction | = 1500 mg/kg ( Rat ) | > 200 mg/kg ( Rabbit ) | - |
| Hydrochloric acid | 238 - 277 mg/kg ( Rat ) | > 5010 mg/kg ( Rabbit ) | = 1.68 mg/L ( Rat ) 1 h |

*See section 16 for terms and abbreviations*

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** Irritating to skin.

**Serious eye damage/eye irritation** Risk of serious damage to eyes.

**Respiratory or skin sensitization** May cause an allergic skin reaction.

**Germ cell mutagenicity** None known.

**Carcinogenicity** None known.

**Reproductive toxicity** None known.

**STOT - single exposure** Target Organs. Respiratory system.

**STOT - repeated exposure** None known.

**Aspiration hazard** None known.

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Unknown aquatic toxicity** 34 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

| Chemical Name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---|---|---|---|---|
| Hydrochloric acid | - | 282: 96 h Gambusia affinis mg/L LC50 static | - | - |

**Persistence and degradability**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

**Other adverse effects** No information available.

## Section 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## Section 14: TRANSPORT INFORMATION

**ADG** Not regulated

**IATA** Not regulated

**IMDG** Not regulated

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

No information available

## Section 15: REGULATORY INFORMATION

**Regulatory information**

**National regulations**

**Australia**
See section 8 for national exposure control parameters

**Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)**
No poisons schedule number allocated

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Complies |
| **ENCS** | Does not comply |
| **IECSC** | Complies |
| **KECL** | Does not comply |
| **PICCS** | Does not comply |
| **AICS** | Complies |
| **NZIoC** | Complies |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals

**International Regulations**

**Ozone-depleting substances (ODS)** Not applicable

**Persistent Organic Pollutants** Not applicable

**Export Notification requirements** Not applicable

## Section 16: ANY OTHER RELEVANT INFORMATION

**Issue Date** 29-Jul-2016

**Revision Date** 08-Feb-2018

**Revision Note**
No information available.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

**Disclaimer**

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**End of Safety Data Sheet**

# SAFETY DATA SHEET

## TrueScav™ HD

**Issue Date** 29-Aug-2018 **Revision Date** 29-Aug-2018 **Version** 1
EN

## Section 1: IDENTIFICATION: PRODUCT INDENTIFIER AND CHEMICAL IDENTITY

**Product identifier**

**Product Name** TrueScav™ HD

**Product Code** NDF00394

**Other means of identification**

**Recommended use of the chemical and restrictions on use**

**Recommended Use** oxygen scavenger

**Uses advised against** No information available

**Details of manufacturer or importer**

**Supplier**
Newpark Drilling Fluids (Australia) LTD
11 Alacrity Place
Henderson, WA, 6166
Australia

For further information, please contact

**Contact Point** Telephone: +61 8 9410 8200
Fax: +61 8 9410 8299
Website: www.newpark.com

**Emergency telephone number**

Emergency telephone number +(61)-290372994 (Australia); +(64)-98010034 (New Zealand)

## Section 2: HAZARD(S) IDENTIFICATION

**GHS - Classification**

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Label elements**

**Hazard statements**
Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Other hazards**
**General Hazards**
No information available

## Section 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8

**Substance**

| | | |
|---|---|---|
| Non-hazardous ingredients | Proprietary | >99 |

## Section 4: FIRST AID MEASURES

**Description of first aid measures**

**Emergency telephone number** Poisons Information Center, Australia: 13 11 26
Poisons Information Center, New Zealand: 0800 764 766

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## Section 5: FIREFIGHTING MEASURES

**Suitable Extinguishing Media**

**Suitable extinguishing media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Do not allow run-off from fire-fighting to enter drains or water courses.

**Hazardous combustion products** Carbon oxides.

**Special protective actions for fire-fighters**

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**Hazchem code** Not Listed.

## Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Precautions to prevent secondary hazards**

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## Section 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid generation of dust. Wash thoroughly after handling. Wash contaminated clothing before reuse.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible materials** Strong oxidizing agents

## Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Control parameters**

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Biological occupational exposure limits** Not applicable

**Appropriate engineering controls**

**Engineering controls** Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear suitable protective clothing.

**Respiratory protection** In case of inadequate ventilation wear respiratory protection.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical state** | Solid | | |
| **Appearance** | Powder | **Odor** | No information available. |
| **Color** | White | **Odor threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 5 - 8 | |
| **Melting point / freezing point** | 160 °C | |
| **Boiling point / boiling range** | | No information available |
| **Flash point** | | No information available |
| **Evaporation rate** | | No information available |
| **Flammability (solid, gas)** | | No information available |
| **Flammability Limit in Air** | | No information available |
| **Upper flammability limit:** | | No data available |
| **Lower flammability limit:** | | No data available |
| **Vapor pressure** | | No data available |
| **Vapor density** | | No data available |
| **Relative density** | 1.2-1.7 | |
| **Water solubility** | Soluble in water | |
| **Solubility(ies)** | | No information available |
| **Partition coefficient** | | No information available |
| **Autoignition temperature** | | No information available |
| **Decomposition temperature** | | No information available |
| **Kinematic viscosity** | | Not applicable |
| **Dynamic viscosity** | | Not applicable |

**Other Information**

| | |
|---|---|
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC Content (%)** | No information available |
| **Liquid Density** | No information available |
| **Bulk density** | No information available |
| **Particle Size** | No information available |
| **Particle Size Distribution** | No information available |

## Section 10: STABILITY AND REACTIVITY

**Reactivity**

**Reactivity** Stable under normal conditions.

**Chemical stability**

**Stability** Stable under normal conditions.

**Explosion data**

**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** None.

**Possibility of Hazardous Reactions**

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid**

**Conditions to avoid** None known based on information supplied.

**Incompatible materials**

**Incompatible materials** Strong oxidizing agents.

**Hazardous Decomposition Products**

**Hazardous Decomposition Products** None known based on information supplied.

## Section 11: TOXICOLOGICAL INFORMATION

**Acute toxicity**

**Information on likely routes of exposure**

**Product Information** .

**Inhalation** Specific test data for the substance or mixture is not available.

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available

**Symptoms** No information available.

**Numerical measures of toxicity - Product Information**

**The following values are calculated based on chapter 3.1 of the GHS document**

**ATEmix (oral)** 5,005.00 mg/kg

**Unknown acute toxicity** 100 % of the mixture consists of ingredient(s) of unknown toxicity

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Component Information**

*See section 16 for terms and abbreviations*

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** None known.

**Serious eye damage/eye irritation** None known.

**Respiratory or skin sensitization** None known.

**Germ cell mutagenicity** None known.

**Carcinogenicity** None known.

**Reproductive toxicity** None known.

**STOT - single exposure** None known.

**STOT - repeated exposure** None known.

**Aspiration hazard** Not applicable.

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Unknown aquatic toxicity** 100 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

**Persistence and degradability**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

**Other adverse effects** No information available.

## Section 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## Section 14: TRANSPORT INFORMATION

**ADG** Not Regulated

**IATA** Not Regulated

**IMDG** Not Regulated

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
No information available

## Section 15: REGULATORY INFORMATION

**Regulatory information**

**National regulations**

**Australia**
See section 8 for national exposure control parameters

**Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)**
No poisons schedule number allocated

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Complies |
| **ENCS** | Complies |
| **IECSC** | Complies |
| **KECL** | Complies |
| **PICCS** | Complies |
| **AICS** | Complies |
| **NZIoC** | Complies |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

## Section 16: ANY OTHER RELEVANT INFORMATION

**Issue Date** 29-Aug-2018

**Revision Date** 29-Aug-2018

**Revision Note**
No information available.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

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**End of Safety Data Sheet**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **THINPOL**

**Synonyms** DISPEX-N400 ● THIN POL

### 1.2 Uses and uses advised against

**Uses** DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| 2-PROPENOIC ACID, HOMOPOLYMER | 9003-01-4 | 618-347-7 | 30 to 60% |
| WATER | 7732-18-5 | 231-791-2 | <100% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed
Adverse effects not expected from this product under normal conditions of use.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve toxic gases if strongly heated.

### 5.3 Advice for firefighters
No fire or explosion hazard exists.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits** No Biological Limit Value allocated.

### 8.2 Exposure controls
**Engineering controls** Avoid inhalation. Use in well ventilated areas.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear splash-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Not required under normal conditions of use. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | COLOURLESS TO YELLOW LIQUID |
| **Odour** | SLIGHT AMMONIACAL ODOUR |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | > 100°C |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | NOT AVAILABLE |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 1.185 - 1.205 |
| **Solubility (water)** | SOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve toxic gases if heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated.

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| 2-PROPENOIC ACID, HOMOPOLYMER | 2500 mg/kg (rat) | -- | -- |

**Additional ingredient toxicity values:**

2-PROPENOIC ACID, HOMOPOLYMER (9003-01-4)

LD50 (intraperitoneal) 39 mg/kg (mouse)

LD50 (intravenous) 70 mg/kg (mouse)

**Skin** Not classified as a skin irritant. Contact may result in mild irritation.

**Eye** Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** No evidence of mutagenic effects.

**Carcinogenicity** No evidence of carcinogenic effects.

**Reproductive** No relevant or reliable studies were identified.

**STOT - single exposure** Not classified as causing organ damage from single exposure.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** This product does not present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

(10000 ppm test concentration) (EPA-821-R-02-012) Mysidopsis Bahia = 48HR LC50 = 16.2 mg/L. Menidia Beryllina = 48hr LC50 = 34.2 mg/L. Scophthalmus Maximus = 96hr LC50 > 1000 mg/L. Skeletonemia Costatum = 72hr EC50 = 393 mg/L [NOEC = 118 mg/L] Acartia Tonsa = 48hr EC50 = 393 mg/L [NOEC = 112 mg/L] Corophium Volutator = 10 day LC50 = 9338 mg/Kg [NOEC = 1000 mg/Kg]

### 12.2 Persistence and degradability

No information provided.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** For small amounts, absorb with sand or similar and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required). Ensure that appropriate personal protective equipment is used during disposal.

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **CALCIUM CHLORIDE POWDER 94-97%**

**Synonyms** CALCIUM CHLORIDE ANHYDRATE

### 1.2 Uses and uses advised against

**Uses** CONCRETE CONDITIONER ● DESICCANT ● DUST CONTROL AGENT ● FOOD ADDITIVE ● INDUSTRIAL APPLICATIONS

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**Physical Hazards**

Not classified as a Physical Hazard

**Health Hazards**

Serious Eye Damage / Eye Irritation: Category 2A

**Environmental Hazards**

Not classified as an Environmental Hazard

### 2.2 GHS Label elements

**Signal word** **WARNING**

**Pictograms**

**Hazard statements**

H319 Causes serious eye irritation.

**Prevention statements**

P264 Wash thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response statements**

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/attention.

**Storage statements**
None allocated.

**Disposal statements**
None allocated.

### 2.3 Other hazards
No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| CALCIUM CHLORIDE ANHYDROUS | 10043-52-4 | 233-140-8 | 94 to 97% |
| SODIUM CHLORIDE | 7647-14-5 | 231-598-3 | 1 to 5% |
| WATER | 7732-18-5 | 231-791-2 | 1% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed
Irritating to the eyes and skin.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve toxic gases (chlorides) when heated to decomposition.

### 5.3 Advice for firefighters
Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits** No Biological Limit Value allocated.

### 8.2 Exposure controls
**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | WHITE POWDER |
| **Odour** | ODOURLESS |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | > 1600°C |
| **Melting point** | 772°C |
| **Evaporation rate** | NOT RELEVANT |
| **pH** | 7.0 to 9.0 |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 2.15 |
| **Solubility (water)** | 590 kg/m³ (Approximately) |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid contact with incompatible substances.

### 10.5 Incompatible materials

Incompatible with acids (e.g. nitric acid), methyl vinyl ether, zinc/ galvanised metals, bromine trifluoride, boron oxide and calcium oxide. May react exothermically with water (i.e. releasing heat).

### 10.6 Hazardous decomposition products

May evolve toxic gases (chlorides) when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity**

Based on available data, the classification criteria are not met. Toxicity Data available for the ingredients:
CALCIUM CHLORIDE ANHYDROUS (10043-52-4):
LD50 (Ingestion): 1000 mg/kg (rat)
LD50 (Intraperitoneal): 210 mg/kg (mouse)
LD50 (Intravenous): 42 mg/kg (mouse)
LD50 (Subcutaneous): 823 mg/kg (mouse)
LDLo (Ingestion): 1384 mg/kg (rabbit)
LDLo (Intravenous): 150 mg/kg (guinea pig)
LDLo (Subcutaneous): 249 mg/kg (cat)
TDLo (Intravenous): 20 mg/kg/1 hour (woman)
SODIUM CHLORIDE (7647-14-5):
LC50 (Inhalation): > 42000 mg/m3/1 hour (rat)
LD50 (Ingestion): 3000 mg/kg (rat)
LD50 (Intraperitoneal): 2602 mg/kg (mouse)
LD50 (Intravenous): 645 mg/kg (mouse)
LD50 (Skin): > 10000 mg/kg (rabbit)
LD50 (Subcutaneous): 3000 mg/kg (mouse)
LDLo (Ingestion): 8000 mg/kg (rabbit)
LDLo (Intravenous): 300 mg/kg (guinea pig)
LDLo (Subcutaneous): 2160 mg/kg (guinea pig)
TDLo (Ingestion): 12357 mg/kg (human)

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| CALCIUM CHLORIDE ANHYDROUS | 2301 mg/kg (rat) | > 5000 mg/kg (rabbit) | -- |
| SODIUM CHLORIDE | 3000 mg/kg (rat) | > 10000 mg/kg (rabbit) | > 42000 mg/m³/1 hour (rat) |

**Additional ingredient toxicity values:**

SODIUM CHLORIDE (7647-14-5)

| | |
|---|---|
| LD50 (intraperitoneal) | 2602 mg/kg (mouse) |
| LD50 (intravenous) | 645 mg/kg (mouse) |
| LD50 (subcutaneous) | 3000 mg/kg (mouse) |
| LDLo (intravenous) | 300 mg/kg (guinea pig) |
| LDLo (oral) | 8000 mg/kg (rabbit) |
| LDLo (subcutaneous) | 2160 mg/kg (guinea pig) |
| TDLo (oral) | 12357 mg/kg (human) |

| | |
|---|---|
| **Skin** | Not classified as a skin irritant. Contact may result in mechanical irritation, redness and rash. |
| **Eye** | Causes serious eye irritation. Contact may result in irritation, lacrimation, pain and redness. |
| **Sensitisation** | Not classified as causing skin or respiratory sensitisation. |
| **Mutagenicity** | Insufficient data available to classify as a mutagen. |
| **Carcinogenicity** | Insufficient data available to classify as a carcinogen. |
| **Reproductive** | Insufficient data available to classify as a reproductive toxin. |
| **STOT - single exposure** | Not classified as causing organ damage from single exposure. |
| **STOT - repeated exposure** | Not classified as causing organ damage from repeated exposure. |
| **Aspiration** | This product does not present an aspiration hazard. |

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

No information provided.

### 12.2 Persistence and degradability

Biodegradability does not pertain to inorganic substances.

### 12.3 Bioaccumulative potential

This product does not bioaccumulate.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

| | |
|---|---|
| **Waste disposal** | Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required). |
| **Legislation** | Dispose of in accordance with relevant local legislation. |

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

### 14.5 Environmental hazards

No information provided.

### 14.6 Special precautions for user

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

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**Prepared by**

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**[ End of SDS ]**

# SAFETY DATA SHEET

## Monoethylene Glycol (MEG)

**NDF00270** **Revision Date** 01-Mar-2019 **Version** 1.1

## Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

**Product Code** NDF00270
*Product Name* Monoethylene Glycol (MEG)

Contains Ethylene glycol

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** hydrate-control additive

**Uses advised against** No information available

### 1.3. Details of the supplier of the safety data sheet

Supplier Newpark Drilling Fluids (Australia) LTD
11 Alacrity Place
Henderson, WA, 6166
Australia

For further information, please contact

**Contact Point** Telephone: +61 8 9410 8200
Fax: +61 8 9410 8299
Website: www.newpark.com

### 1.4. Emergency telephone number

Emergency telephone number 1800 127 406 (Australia); +64 4 917 9888 (International)

## Section 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

*Regulation (EC) No 1272/2008*

| | |
|---|---|
| **Acute toxicity - Oral** | Category 4 - (H302) |
| **Specific target organ toxicity (repeated exposure)** | Category 2 - (H373) |

**Classification according to Directive 67/548/EEC or 1999/45/EC**
*Full text of R-phrases: see section 16*

**Hazard symbols**
Xn - Harmful

**R-code(s)**
Xn;R22

### 2.2. Label elements

**Product identifier**
203-473-3
Contains Ethylene glycol

**Signal word**
Warning

**Hazard statements**
H302 - Harmful if swallowed
H373 - May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements - EU (§28, 1272/2008)**
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P314 - Get medical advice/attention if you feel unwell
P501 - Dispose of contents/container to industrial incineration plant

**2.3. Other hazards**
Harmful to aquatic life

## Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

**3.1 Substances**

| Chemical Name | CAS No | Weight-% | Classification according to Directive 67/548/EEC or 1999/45/EC | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|---|
| Ethylene glycol | 107-21-1 | 100 | Xn; R22 | Acute Tox. 4 (H302)<br>STOT RE 2 (H373) |

**Full text of R-phrases: see section 16**

**Full text of H- and EUH-phrases: see section 16**

## Section 4: FIRST AID MEASURES

**4.1. Description of first aid measures**

**General advice** If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

**Inhalation** Remove to fresh air. Call a physician. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

**Skin contact** Wash skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. Get medical attention if irritation develops and persists.

**Eye contact** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

**Ingestion** Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Do NOT induce vomiting.

**Self-protection of the first aider** Use personal protective equipment as required.

**4.2. Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**4.3. Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## Section 5: FIRE FIGHTING MEASURES

**5.1. Extinguishing media**

**Suitable extinguishing media**
Dry chemical, CO2, alcohol-resistant foam or water spray.

**Unsuitable extinguishing media**
No information available

**5.2. Special hazards arising from the substance or mixture**

Thermal decomposition can lead to release of irritating and toxic gases and vapors

**Hazardous combustion products** Carbon oxides.

**5.3. Advice for firefighters**

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment as required.

## Section 6: ACCIDENTAL RELEASE MEASURES

**6.1. Personal precautions, protective equipment and emergency procedures**

**Personal precautions**
Ensure adequate ventilation, especially in confined areas. Keep people away from and upwind of spill/leak.

**For emergency responders**
In the case of vapor formation use a respirator with an approved filter.

**6.2. Environmental precautions**

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

**6.3. Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so. Dike to collect large liquid spills.

**Methods for cleaning up** Use personal protective equipment as required. Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. Use clean non-sparking tools to collect absorbed material.

**6.4. Reference to other sections**

See section 13 for more information.

## Section 7: HANDLING AND STORAGE

**7.1. Precautions for safe handling**

**Advice on safe handling**
Wash contaminated clothing before reuse. Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly

after handling.

**General Hygiene Considerations**
Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage Conditions**
Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

**7.3. Specific end use(s)**

**Risk Management Methods (RMM)**
The information required is contained in this Material Safety Data Sheet.

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1. Control parameters**

| Chemical Name | Australia | European Union | United Kingdom | France | Spain | Germany |
|---|---|---|---|---|---|---|
| Ethylene glycol<br>107-21-1 | 10 mg/m³<br>20 ppm<br>52 mg/m³<br>40 ppm STEL<br>104 mg/m³<br>STEL | TWA 20 ppm<br>TWA 52 mg/m³<br>STEL 40 ppm<br>STEL 104 mg/m³<br>* | TWA: 10 mg/m³<br>TWA: 20 ppm<br>TWA: 52 mg/m³<br>STEL: 40 ppm<br>STEL: 104 mg/m³<br>STEL: 30 mg/m³<br>Sk* | TWA: 20 ppm<br>TWA: 52 mg/m³<br>STEL: 40 ppm<br>STEL: 104 mg/m³<br>* | TWA: 20 ppm<br>TWA: 52 mg/m³<br>STEL: 40 ppm<br>STEL: 104 mg/m³<br>vía dérmica* | TWA: 10 ppm<br>TWA: 26 mg/m³<br>Ceiling / Peak: 20 ppm<br>Ceiling / Peak: 52 mg/m³<br>Skin |

| Chemical Name | Italy | Portugal | Netherlands | Finland | Denmark |
|---|---|---|---|---|---|
| Ethylene glycol<br>107-21-1 | TWA: 20 ppm<br>TWA: 52 mg/m³<br>STEL: 40 ppm<br>STEL: 104 mg/m³<br>pelle* | TWA: 20 ppm<br>TWA: 52 mg/m³<br>STEL: 40 ppm<br>STEL: 104 mg/m³<br>Ceiling: 100 mg/m³<br>P* | TWA: 52 mg/m³<br>TWA: 10 mg/m³<br>STEL: 104 mg/m³<br>H* | TWA: 20 ppm<br>TWA: 50 mg/m³<br>STEL: 40 ppm<br>STEL: 100 mg/m³<br>iho* | TWA: 10 ppm<br>TWA: 26 mg/m³<br>TWA: 10 mg/m³<br>H* |

| Chemical Name | Austria | Switzerland | Poland | Norway | Ireland |
|---|---|---|---|---|---|
| Ethylene glycol<br>107-21-1 | TWA: 10 ppm<br>TWA: 26 mg/m³<br>STEL 20 ppm<br>STEL 52 mg/m³<br>H* | TWA: 10 ppm<br>TWA: 26 mg/m³<br>STEL: 20 ppm<br>STEL: 52 mg/m³<br>H* | STEL: 50 mg/m³<br>TWA: 15 mg/m³ | TWA: 20 ppm<br>TWA: 52 mg/m³<br>STEL: 104 mg/m³<br>STEL: 40 ppm<br>H* | TWA: 10 mg/m³<br>TWA: 20 ppm<br>TWA: 52 mg/m³<br>STEL: 40 ppm<br>STEL: 30 mg/m³<br>STEL: 104 mg/m³<br>Sk* |

**Derived No Effect Level (DNEL)** No information available

**Predicted No Effect Concentration (PNEC)** No information available.

**8.2. Exposure controls**

**Engineering Controls** Ensure adequate ventilation, especially in confined areas.

**Personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Suitable protective clothing.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**9.1. Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical state** | Liquid | | |
| **Appearance** | liquid | **Odor** | No information available |
| **Color** | colorless | **Odor threshold** | No data available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | | No data available |
| **Melting point / freezing point** | -13 °C / 9 °F | |
| **Boiling point / boiling range** | 196 °C / 385 °F | |
| **Flash point** | 111 °C / 232 °F | |
| **Evaporation rate** | 1 | |
| **Flammability (solid, gas)** | | No data available |
| **Flammability Limit in Air** | | |
| **Upper flammability limit:** | | No data available |
| **Lower flammability limit:** | | No data available |
| **Vapor pressure** | | No data available |
| **Vapor density** | | No data available |
| **Specific Gravity** | 1.11 | |
| **Water solubility** | Miscible in water | |
| **Solubility(ies)** | | No information available |
| **Partition coefficient** | | No data available |
| **Autoignition temperature** | 400 °C / 752 °F | |
| **Decomposition temperature** | | No data available |
| **Kinematic viscosity** | | No data available |
| **Dynamic viscosity** | | No data available |
| **Explosive properties** | Not an explosive | |
| **Oxidizing properties** | Not applicable | |

**9.2. Other information**

| | |
|---|---|
| **Softening point** | Not applicable |
| **Molecular weight** | No data available |
| **VOC Content (%)** | Not applicable |
| **Density** | No data available |
| **Bulk density** | Not applicable |

## Section 10: STABILITY AND REACTIVITY

**10.1. Reactivity**

No data available.

**10.2. Chemical stability**

Stable under normal conditions.

Explosion data

| | |
|---|---|
| Sensitivity to Mechanical Impact | None. |
| Sensitivity to Static Discharge | None. |

### 10.3. Possibility of hazardous reactions

**Possibility of Hazardous Reactions**
None under normal processing.

### 10.4. Conditions to avoid

Extremes of temperature and direct sunlight. Incompatible materials.

### 10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases. Aldehydes. Aluminum.

### 10.6. Hazardous decomposition products

None under normal use conditions.

## Section 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

**Acute toxicity**

**Product Information**
Product does not present an acute toxicity hazard based on known or supplied information.

| | |
|---|---|
| **National Regulations** | No data available. |
| **Eye contact** | No data available. |
| **Skin contact** | No data available. |
| **Ingestion** | No data available. |

**Unknown acute toxicity** 0 % of the mixture consists of ingredient(s) of unknown toxicity.

**The following values are calculated based on chapter 3.1 of the GHS document**
**ATEmix (oral)** 500.00 mg/kg

**Component Information**

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Ethylene glycol | = 4700 mg/kg ( Rat ) | = 10600 mg/kg ( Rat ) = 9530 µL/kg ( Rabbit ) | |

**Skin corrosion/irritation** None known.

**Serious eye damage/eye irritation** None known.

**Sensitization** None known.

**Germ cell mutagenicity** None known.

**Carcinogenicity** None known.

**Reproductive toxicity** None known.

**STOT - single exposure** None known.

**STOT - repeated exposure** Causes damage to organs through prolonged or repeated exposure if swallowed.

**Target Organ Effects** kidney.

**Aspiration hazard** No information available.

## Section 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

| Chemical Name | Algae/aquatic plants | Fish | Crustacea |
|---|---|---|---|
| Ethylene glycol | 6500 - 13000: 96 h Pseudokirchneriella subcapitata mg/L EC50 | 14 - 18: 96 h Oncorhynchus mykiss mL/L LC50 static 40000 - 60000: 96 h Pimephales promelas mg/L LC50 static 16000: 96 h Poecilia reticulata mg/L LC50 static 27540: 96 h Lepomis macrochirus mg/L LC50 static 40761: 96 h Oncorhynchus mykiss mg/L LC50 static 41000: 96 h Oncorhynchus mykiss mg/L LC50 | 46300: 48 h Daphnia magna mg/L EC50 |

### 12.2. Persistence and degradability

No information available.

### 12.3. Bioaccumulative potential

.

| Chemical Name | Partition coefficient |
|---|---|
| Ethylene glycol | -1.93 |

### 12.4. Mobility in soil

**Mobility in soil**
No information available.

### 12.5. Results of PBT and vPvB assessment

No information available.

### 12.6. Other adverse effects

No information available

## Section 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Waste from residues/unused products** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging** Improper disposal or reuse of this container may be dangerous and illegal.

**Other Information** Waste codes should be assigned by the user based on the application for which the product was used.

## Section 14: TRANSPORT INFORMATION

**IMDG**
**14.1 UN/ID no** Not regulated
**14.2 Proper shipping name** Not regulated

| | |
|---|---|
| **14.3 Hazard Class** | Not regulated |
| **14.4 Packing Group** | Not regulated |
| **14.5 Marine pollutant** | Not applicable |
| **14.6 Special Provisions** | None |
| **14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** | No information available |

**RID**

| | |
|---|---|
| **14.1 UN/ID no** | Not regulated |
| **14.2 Proper shipping name** | Not regulated |
| **14.3 Hazard Class** | Not regulated |
| **14.4 Packing Group** | Not regulated |
| **14.5 Environmental hazard** | Not applicable |
| **14.6 Special Provisions** | None |

**ADR**

| | |
|---|---|
| **14.1 UN/ID no** | Not regulated |
| **14.2 Proper shipping name** | Not regulated |
| **14.3 Hazard Class** | Not regulated |
| **14.4 Packing Group** | Not regulated |
| **14.5 Environmental hazard** | Not applicable |
| **14.6 Special Provisions** | None |

**ICAO (air)**

| | |
|---|---|
| **14.1 UN/ID no** | Not regulated |
| **14.2 Proper shipping name** | Not regulated |
| **14.3 Hazard Class** | Not regulated |
| **14.4 Packing Group** | Not regulated |
| **14.5 Environmental hazard** | Not applicable |
| **14.6 Special Provisions** | None |

**IATA**

| | |
|---|---|
| **14.1 UN/ID no** | Not regulated |
| **14.2 Proper shipping name** | Not regulated |
| **14.3 Hazard Class** | Not regulated |
| **14.4 Packing Group** | Not regulated |
| **14.5 Environmental hazard** | Not applicable |
| **14.6 Special Provisions** | None |

**HAZCHEM Emergency Action Code**
No information available

## Section 15: REGULATORY INFORMATION

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

**National regulations**

**Australia**
See section 8 for national exposure control parameters

**Carcinogenicity**

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Complies |

| | |
|---|---|
| **ENCS** | Complies |
| **IECSC** | Complies |
| **KECL** | Complies |
| **PICCS** | Complies |
| **AICS** | Complies |
| **NZIoC** | Complies |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals

### 15.2. Chemical safety assessment

No information available

## Section 16: OTHER INFORMATION

**Full text of R-phrases referred to under sections 2 and 3**
R22 - Harmful if swallowed

**Full text of H-Statements referred to under section 3**
H302 - Harmful if swallowed
H373 - May cause damage to organs through prolonged or repeated exposure if inhaled

**Issue Date** 18-May-2017

**Revision Date** 01-Mar-2019

**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

**Disclaimer**
**According to Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006, as amended by Regulation (EU) No. 2015/830.**
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**End of Safety Data Sheet**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **STRATA-VANGUARD**

**Synonyms** STRATA VANGUARD

### 1.2 Uses and uses advised against

**Uses** DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| CELLULOSE | 9004-34-6 | 232-674-9 | <30% |
| DIATOMACEOUS EARTH, FLUX CALCINED | 68855-54-9 | 272-489-0 | <15% |
| FULLERS EARTH | 8031-18-3 | 617-052-0 | <10% |
| LIMESTONE (CALCIUM CARBONATE) | 1317-65-3 | 215-279-6 | <10% |
| CRISTOBALITE | 14464-46-1 | 238-455-4 | <5% |
| QUARTZ (CRYSTALLINE SILICA) | 14808-60-7 | 238-878-4 | <2% |
| MAGNESIUM OXIDE | 1309-48-4 | 215-171-9 | <1% |
| 1,3 BUTADIENE/STYRENE COPOLYMERS | 9003-55-8 | 618-370-2 | <50% |
| 2-PROPENENITRILE-1,3-BUTADIENE RUBBER | 9003-18-3 | 618-357-1 | <50% |
| NATURAL RUBBER | 9006-04-6 | 232-689-0 | <50% |
| POLYISOPRENE | 9003-31-0 | 618-362-9 | <50% |
| POLYETHYLENE | 9002-88-4 | 618-339-3 | <3% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

| | |
|---|---|
| **Eye** | If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes. |
| **Inhalation** | If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. |
| **Skin** | If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor. |
| **Ingestion** | For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. |
| **First aid facilities** | None allocated. |

### 4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve toxic gases if strongly heated.

### 5.3 Advice for firefighters

No fire or explosion hazard exists.

### 5.4 Hazchem code

None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

### 7.3 Specific end uses

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Calcium carbonate (Limestone, Marble, Whiting) | SWA [AUS] | -- | 10 | -- | -- |
| Cellulose (paper fibre) (a) | SWA [AUS] | -- | 10 | -- | -- |
| Cristobalite | SWA [AUS] | -- | 0.1 | -- | -- |
| Magnesium oxide (fume) | SWA [AUS] | -- | 10 | -- | -- |
| Quartz (respirable dust) | SWA [AUS] | -- | 0.1 | -- | -- |
| Quartz (respirable dust) | SWA [Proposed] | -- | 0.05 | -- | -- |
| Quartz (respirable dust) | WorkSafe VIC | -- | 0.05 | -- | -- |

**Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

**PPE**

**Eye / Face** Wear dust-proof goggles.

**Hands** Wear PVC or rubber gloves.

**Body** When using large quantities or where heavy contamination is likely, wear coveralls.

**Respiratory** Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. At high dust levels, wear a Powered Air Purifying Respirator (PAPR) with Class P3 (Particulate) filter or a Full-face Class P3 (Particulate) respirator.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | TAN COLOURED POWDER |
| **Odour** | MILD ODOUR |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT AVAILABLE |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 6.3 (5% Suspension) |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 2.1 |
| **Solubility (water)** | INSOLUBLE |
| **Vapour pressure** | 1 mm Hg @ 20°C |
| **Upper explosion limit** | NOT AVAILABLE |
| **Lower explosion limit** | NOT AVAILABLE |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity
Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability
Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions
Polymerization is not expected to occur.

### 10.4 Conditions to avoid
Avoid contact with incompatible substances.

### 10.5 Incompatible materials
Incompatible with acids (e.g. nitric acid). Also incompatible with oxygen difluoride, chlorine and trifluoride.

### 10.6 Hazardous decomposition products
May evolve toxic gases if heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity**

Toxicity Data available for the ingredients:
CRISTOBALITE (14464-46-1):
TCLo (inhalation) 16 mppcf/8hours/17.9 years (human-fibrosis)
QUARTZ (SILICA CRYSTALLINE) (14808-60-7):
LCLo (inhalation) 300 ug/m³/10 years (human)
TCLo (inhalation) 16 000 000 particles/ft3/8 hours/17.9 years (human-fibrosis)
CELLULOSE (9004-34-6):
LC50 (inhalation) > 5800 mg/m³/4 hours (rat)
LD50 (ingestion) > 5000 mg/kg (rat)
LD50 (intraperitoneal) > 31600 mg/kg (rat)
LD50 (skin) > 2000 mg/kg (rabbit)
POLYETHYLENE (9002-88-4):
LDLo (ingestion) 3000 mg/kg (rat)
MAGNESIUM OXIDE (1309-48-4):
TCLo (inhalation) 400 mg/kg (human)

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| CELLULOSE | > 5000 mg/kg (rat) | > 2000 mg/kg (rabbit) | > 5800 mg/m³/4 hours (rat) |
| LIMESTONE (CALCIUM CARBONATE) | > 5000 mg/kg (rat) | -- | -- |

**Additional ingredient toxicity values:**

CELLULOSE (9004-34-6)
LD50 (intraperitoneal) > 31600 mg/kg (rat)

CRISTOBALITE (14464-46-1)
TCLo (inhalation) 16 mppcf/8hours/17.9 years (human-fibrosis)

POLYETHYLENE (9002-88-4)
LDLo (oral) 3000 mg/kg (rat)

**Skin** Not classified as a skin irritant. Contact may result in mechanical irritation.

**Eye** Not classified as an eye irritant. Contact may result in mechanical irritation.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** No evidence of mutagenic effects.

**Carcinogenicity** Not classified as a carcinogen. Crystalline silica is classified as carcinogenic to humans (IARC Group 1). However, there is a body of evidence supporting the fact that increased cancer risk would be limited to people already suffering from silicosis.

**Reproductive** No relevant or reliable studies were identified.

**STOT - single exposure** No known effects from this product.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure. Adverse health effects associated with silica, such as the development of silicosis (lung fibrosis), is not anticipated unless prolonged and repeated exposure to respirable silica quartz dust occurs.

**Aspiration** This product does not present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity
This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.

### 12.2 Persistence and degradability
Not applicable.

### 12.3 Bioaccumulative potential
This product is not expected to bioaccumulate.

### 12.4 Mobility in soil
This product has low mobility in soil.

### 12.5 Other adverse effects
No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods
**Waste disposal** Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

### 14.5 Environmental hazards
No information provided.

### 14.6 Special precautions for user
**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **FRAC ATTACK**

**Synonyms** FRAC-ATTACK

### 1.2 Uses and uses advised against

**Uses** LOST CIRCULATION MATERIAL

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**Physical Hazards**

Not classified as a Physical Hazard

**Health Hazards**

Skin Corrosion/Irritation: Category 2
Serious Eye Damage / Eye Irritation: Category 1
Specific Target Organ Toxicity (Single Exposure): Category 3 (Respiratory Irritation)

**Environmental Hazards**

Not classified as an Environmental Hazard

### 2.2 GHS Label elements

**Signal word** **DANGER**

**Pictograms**

**Hazard statements**

| | |
|---|---|
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H335 | May cause respiratory irritation. |

**Prevention statements**

| | |
|---|---|
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |
| P264 | Wash thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |

**Response statements**

| | |
|---|---|
| P302 + P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P304 + P340 | IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310 | Immediately call a POISON CENTER or doctor/physician. |
| P321 | Specific treatment is advised - see first aid instructions. |
| P332 + P313 | If skin irritation occurs: Get medical advice/ attention. |
| P362 | Take off contaminated clothing and wash before re-use. |

**Storage statements**

| | |
|---|---|
| P403 + P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P405 | Store locked up. |

**Disposal statements**

| | |
|---|---|
| P501 | Dispose of contents/container in accordance with relevant regulations. |

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| CELLULOSE | 9004-34-6 | 232-674-9 | <30% |
| DIATOMACEOUS EARTH | 61790-53-2 | 612-383-7 | <15% |
| FULLERS EARTH | 8031-18-3 | 617-052-0 | <12% |
| CALCIUM OXIDE | 1305-78-8 | 215-138-9 | <10% |
| CALCIUM HYDROXIDE | 1305-62-0 | 215-137-3 | <5% |
| CRISTOBALITE | 14464-46-1 | 238-455-4 | <5% |
| QUARTZ (CRYSTALLINE SILICA) | 14808-60-7 | 238-878-4 | <3% |
| MAGNESIUM OXIDE | 1309-48-4 | 215-171-9 | <2% |
| 1,3 BUTADIENE/STYRENE COPOLYMERS | 9003-55-8 | 618-370-2 | <50% |
| 2-PROPENENITRILE-1,3-BUTADIENE RUBBER | 9003-18-3 | 618-357-1 | <50% |
| NATURAL RUBBER | 9006-04-6 | 232-689-0 | <50% |
| POLYISOPRENE | 9003-31-0 | 618-362-9 | <50% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

Irritating to the eyes and skin.

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture
Non flammable.

### 5.3 Advice for firefighters
Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Ventilate area where possible.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Calcium hydroxide | SWA [AUS] | -- | 5 | -- | -- |
| Calcium hydroxide | SWA [Proposed] | -- | 1 | -- | -- |
| Calcium oxide | SWA [AUS] | -- | 2 | -- | -- |
| Calcium oxide | SWA [Proposed] | -- | 1 | -- | -- |
| Cellulose (paper fibre) (a) | SWA [AUS] | -- | 10 | -- | -- |
| Cristobalite | SWA [AUS] | -- | 0.1 | -- | -- |
| Diatomaceous earth (uncalcined) (a) | SWA [AUS] | -- | 10 | -- | -- |
| Magnesium oxide (fume) | SWA [AUS] | -- | 10 | -- | -- |
| Quartz (respirable dust) | SWA [AUS] | -- | 0.1 | -- | -- |
| Quartz (respirable dust) | SWA [Proposed] | -- | 0.05 | -- | -- |
| Quartz (respirable dust) | WorkSafe VIC | -- | 0.05 | -- | -- |

**Biological limits**
No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Maintain dust levels below the recommended exposure standard.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Appearance** | BROWN/GREY POWDER |
| **Odour** | ODOURLESS |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | NOT RELEVANT |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NON VOLATILE |
| **pH** | ALKALINE |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 2.10 |
| **Solubility (water)** | NEGLIGIBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

**9.2 Other information**

| | |
|---|---|
| **% Volatiles** | NOT RELEVANT |

## 10. STABILITY AND REACTIVITY

**10.1 Reactivity**
Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**
Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**
Polymerization is not expected to occur.

**10.4 Conditions to avoid**
Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials
Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products
May evolve Fluorine, Oxygen Difluoride, Chlorine, Trifluoride and Hydrofluoric Acid when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity**

Toxicity Data available for the ingredients:
CALCIUM HYDROXIDE (1305-62-0):
LD50 (ingestion): 7300 mg/kg (mouse)
CRISTOBALITE (14464-46-1):
TCLo (inhalation) 16 mppcf/8hours/17.9 years (human-fibrosis)
QUARTZ (SILICA CRYSTALLINE) (14808-60-7):
LCLo (inhalation): 300 ug/m³/10 years (human)
TCLo (inhalation): 16 000 000 particles/ft3/8 hours/17.9 years (human-fibrosis)
CELLULOSE (9004-34-6):
LC50 (inhalation) > 5800 mg/m³/4 hours (rat)
LD50 (ingestion) > 5000 mg/kg (rat)
LD50 (intraperitoneal) > 31600 mg/kg (rat)
LD50 (skin) > 2000 mg/kg (rabbit)
MAGNESIUM OXIDE (1309-48-4):
TCLo (inhalation): 400 mg/kg (human)

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| CELLULOSE | > 5000 mg/kg (rat) | > 2000 mg/kg (rabbit) | > 5800 mg/m³/4 hours (rat) |
| DIATOMACEOUS EARTH | > 5000 mg/kg (rat) | > 5000 mg/kg (rabbit) | -- |
| CALCIUM HYDROXIDE | 7300 mg/kg (mouse) | -- | -- |

**Additional ingredient toxicity values:**

CELLULOSE (9004-34-6)
LD50 (intraperitoneal) > 31600 mg/kg (rat)

CRISTOBALITE (14464-46-1)
TCLo (inhalation) 16 mppcf/8hours/17.9 years (human-fibrosis)

**Skin** Irritating to the skin. Contact may result in irritation, redness, pain, rash, dermatitis and possible skin burns.

**Eye** Irritating to the eyes. Contact may result in irritation, lacrimation, pain, redness, conjunctivitis and possible burns.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Insufficient data available to classify as a mutagen.

**Carcinogenicity** Crystalline silica is classified as carcinogenic to humans (IARC Group 1). However, there is a body of evidence supporting the fact that increased cancer risk would be limited to people already suffering from silicosis.

**Reproductive** Insufficient data available to classify as a reproductive toxin.

**STOT - single exposure** Irritating to the respiratory system. Over exposure may result in irritation of the nose and throat, with coughing.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure. Repeated exposure to crystalline silica may cause lung fibrosis (silicosis), however due to the low levels of respirable crystalline silica in this product, adverse health effects are not anticipated with normal use.

**Aspiration** Not classified as causing aspiration. Not relevant.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity
The manufacturer reports that this product is harmful to aquatic life.

### 12.2 Persistence and degradability
No information provided.

### 12.3 Bioaccumulative potential
No information provided.

### 12.4 Mobility in soil
No information provided.

### 12.5 Other adverse effects
No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods
**Waste disposal** Collect without generating dust. Place in clean, sealed containers and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

### 14.5 Environmental hazards
No information provided.

### 14.6 Special precautions for user
**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information** PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **DEFOAM AP 400**

**Synonyms** DEFOAMER

### 1.2 Uses and uses advised against

**Uses** TREATMENT OF FOAMING IN DRILLING FLUIDS

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| POLYETHYLENE GLYCOL | 25322-68-3 | 500-038-2 | 45 to 60% |
| OCTAN-2-OL | 123-96-6 | 204-667-0 | 40 to 55% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).

**First aid facilities** None allocated.

### 4.2 Most important symptoms and effects, both acute and delayed
Adverse effects not expected from this product under normal conditions of use.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve carbon oxides and hydrocarbons when heated to decomposition.

### 5.3 Advice for firefighters
Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Eliminate all sources of ignition.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate ventilation systems.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear splash-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Type A (Organic vapour) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | CLEAR COLOURLESS LIQUID |
| **Odour** | ODOURLESS |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | 100°C to 102°C |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 7 to 8 |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 1.00 to 1.17 |
| **Solubility (water)** | SOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

### 9.2 Other information

| | |
|---|---|
| **Freezing point** | -7°C to 0°C |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), heat and ignition sources.

### 10.6 Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated.

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| POLYETHYLENE GLYCOL | > 15,000 mg/kg (rat) | > 20,000 mg/kg (rabbit) | -- |
| OCTAN-2-OL | -- | 2000 mg/kg (rat) | -- |

**Skin** Not classified as a skin irritant. Contact may cause temporary mild skin irritation.

**Eye** Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Not classified as a mutagen.

**Carcinogenicity** Not classified as a carcinogen.

**Reproductive** Not classified as a reproductive toxin.

**STOT - single exposure** Not classified as causing organ damage from single exposure.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** Not classified as causing aspiration.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

No information provided.

### 12.2 Persistence and degradability

No information provided.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **DSCO DEFOAM**

**Synonyms** 1093242, 1016819 - MATERIAL NUMBER

### 1.2 Uses and uses advised against

**Uses** DEFOAMER ● DEFOAMING AGENT

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| POLYPROPYLENE GLYCOL | 25322-69-4 | 500-039-8 | >60% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

Adverse effects not expected from this product under normal conditions of use.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Dry agent, carbon dioxide or foam. Prevent contamination of drains and waterways.

### 5.2 Special hazards arising from the substance or mixture
Combustible. May evolve carbon oxides and hydrocarbons when heated to decomposition.

### 5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Large storage areas should have appropriate ventilation systems. Store as a Class C2 Combustible Liquid (AS1940).

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls
**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear splash-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. In a laboratory situation, wear a laboratory coat. |
| **Respiratory** | Where an inhalation risk exists, wear a Type A (Organic vapour) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | CLEAR TO LIGHT AMBER LIQUID |
| **Odour** | SLIGHT ODOUR |
| **Flammability** | CLASS C2 COMBUSTIBLE |
| **Flash point** | 185°C |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | NOT AVAILABLE |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 1.00 |
| **Solubility (water)** | SLIGHTLY SOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT AVAILABLE |
| **Lower explosion limit** | NOT AVAILABLE |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), heat and ignition sources.

### 10.6 Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects

are not anticipated.

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| POLYPROPYLENE GLYCOL | 300 - 57000 mg/kg (range) | -- | -- |

**Skin** Not classified as a skin irritant. Contact may cause temporary mild skin irritation.

**Eye** Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** No evidence of mutagenic effects.

**Carcinogenicity** No evidence of carcinogenic effects.

**Reproductive** No relevant or reliable studies were identified.

**STOT - single exposure** Not classified as causing organ damage from single exposure.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** This product does not present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity
No information provided.

### 12.2 Persistence and degradability
No information provided.

### 12.3 Bioaccumulative potential
No information provided.

### 12.4 Mobility in soil
No information provided.

### 12.5 Other adverse effects
No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** For small amounts, absorb with sand, vermiculite or similar and dispose of to an approved landfill site. For large quantities, contact the manufacturer/supplier for additional information.

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

### 14.5 Environmental hazards
No information provided.

### 14.6 Special precautions for user

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings**

**AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.
**NEW ZEALAND: NZIoC (New Zealand Inventory of Chemicals)**
All components are listed on the NZIoC inventory, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **SAPP**

**Synonyms** DISODIUM DIHYDROGEN PYROPHOSPHATE ● DISODIUM PYROPHOSPHATE

### 1.2 Uses and uses advised against

**Uses** ACIDIFIER ● BUFFERING AGENT

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| DISODIUM PYROPHOSPHATE | 7758-16-9 | 231-835-0 | 100% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve toxic gases (phosphorus oxides) when heated to decomposition.

### 5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Ventilate area where possible.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled and tightly closed when not in use.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Nuisance dust | SWA [AUS] | -- | 10 | -- | -- |

**Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls
**Engineering controls** Avoid inhalation. Use in well ventilated areas.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | WHITE POWDER |
| **Odour** | SLIGHT ODOUR |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | > 600°C |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 4 - 5 (10% Solution) |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 1.35 - 1.41 |
| **Solubility (water)** | 119 g/L |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve toxic gases (phosphorus oxides) when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** Low toxicity. Ingestion of large quantities may result in nausea, vomiting and gastrointestinal irritation.

Ingestion of large quantities may also result in serious disturbances in calcium metabolism.

LD50 (Ingestion): 2650 mg/kg (mouse)
LD50 (Intraperitoneal): 1 g/kg (mouse)
LD50 (Intravenous): 59 mg/kg (mouse)
LD50 (Subcutaneous): 480 mg/kg (mouse)

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| DISODIUM PYROPHOSPHATE | 2650 mg/kg (mouse) | > 2000 mg/kg (rat) | > 0.58 mg/L/4hrs (rat) |

**Additional ingredient toxicity values:**

DISODIUM PYROPHOSPHATE (7758-16-9)
LD50 (intraperitoneal) 1 g/kg (mouse)
LD50 (intravenous) 59 mg/kg (mouse)
LD50 (subcutaneous) 480 mg/kg (mouse)

**Skin** Low to moderate irritant. Prolonged or repeated contact may result in irritation and rash.

**Eye** Low to moderate irritant. Contact may result in mild irritation, lacrimation and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Not classified as a mutagen.

**Carcinogenicity** Not classified as a carcinogen.

**Reproductive** Not classified as a reproductive toxin.

**STOT - single exposure** Low irritant. Over exposure may result in irritation of the nose and throat, with coughing.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** This product does not present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity
No information provided.

### 12.2 Persistence and degradability
Biodegradability does not pertain to inorganic substances.

### 12.3 Bioaccumulative potential
Does not bioaccumulate.

### 12.4 Mobility in soil
No information provided.

### 12.5 Other adverse effects
No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **SAND SEAL FINE**

**Synonyms** SAND SEAL

### 1.2 Uses and uses advised against

**Uses** DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| VEGETABLE MATERIALS | - | - | 100% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** None allocated.

### 4.2 Most important symptoms and effects, both acute and delayed

Adverse effects not expected from this product under normal conditions of use.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Finely divided dust may form explosive mixtures with air.

### 5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate ventilation systems.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls
**Engineering controls** Avoid inhalation. Use in well ventilated areas. Maintain dust levels below the recommended exposure standard.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | TAN POWDER |
| **Odour** | MILD ODOUR |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT AVAILABLE |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 6.3 (5% Suspension) |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 0.35 |
| **Solubility (water)** | INSOLUBLE |
| **Vapour pressure** | 1 mm Hg @ 20°C |
| **Upper explosion limit** | NOT AVAILABLE |
| **Lower explosion limit** | NOT AVAILABLE |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects

| | |
|---|---|
| | are not anticipated. |
| **Skin** | Not classified as a skin irritant. Contact may result in mild irritation. |
| **Eye** | Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness. |
| **Sensitisation** | Not classified as causing skin or respiratory sensitisation. |
| **Mutagenicity** | Not classified as a mutagen. |
| **Carcinogenicity** | Not classified as a carcinogen. |
| **Reproductive** | Not classified as a reproductive toxin. |
| **STOT - single exposure** | Not classified as causing organ damage from single exposure. |
| **STOT - repeated exposure** | Not classified as causing organ damage from repeated exposure. |
| **Aspiration** | This product does not present an aspiration hazard. |

## 12. ECOLOGICAL INFORMATION

**12.1 Toxicity**

No information provided.

**12.2 Persistence and degradability**

No information provided.

**12.3 Bioaccumulative potential**

No information provided.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

No information provided.

## 13. DISPOSAL CONSIDERATIONS

**13.1 Waste treatment methods**

| | |
|---|---|
| **Waste disposal** | Collect and place in sealable containers and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required). |
| **Legislation** | Dispose of in accordance with relevant local legislation. |

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **CALCIUM CARBONATE**

**Synonym(s)** ABGRIT ● CIRCAL ● LIMESTONE ● MARBLE ● NEWCARB, AG LIMESTONE, UNICAL 20, UNICAL 40 AND UNICAL C300C ● OMYACAL ● OMYACARB ● RHEOCARB ● STONEDUST

### 1.2 Uses and uses advised against

**Use(s)** DRILLING FLUID ADDITIVE ● WEIGHTING AGENT

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| LIMESTONE (CALCIUM CARBONATE) | 1317-65-3 | 215-279-6 | >96% |
| QUARTZ (CRYSTALLINE SILICA) | 14808-60-7 | 238-878-4 | <1% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed
May cause irritation to the eyes, skin and respiratory system.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve toxic gases if strongly heated.

### 5.3 Advice for firefighters
No fire or explosion hazard exists.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
If spilt, collect and reuse where possible. If reuse is not possible, contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

### 7.3 Specific end use(s)
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Calcium carbonate (Limestone, Marble, Whiting) | SWA (AUS) | -- | 10 | -- | -- |
| Quartz (respirable dust) | SWA (AUS) | -- | 0.1 | -- | -- |

**Biological limits** No Biological Limit Value allocated.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | When using large quantities or where heavy contamination is likely, wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | OFF-WHITE POWDER |
| **Odour** | ODOURLESS |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | 840°C (Decomposes) |
| **Melting point** | 825°C |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 9 |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 2.7 |
| **Solubility (water)** | INSOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization will not occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with acids (e.g. nitric acid), fluorine, aluminium (hot) and ammonium salts. Incompatible with oxidising agents (e.g. hypochlorites).

### 10.6 Hazardous decomposition products

May evolve toxic gases if heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** This product is expected to be of low toxicity. Based on available data, the classification criteria are not met. LD50 (Ingestion) = 6450 mg/kg (rat).

**Information available for the ingredient(s):**

| Ingredient | Oral Toxicity (LD50) | Dermal Toxicity (LD50) | Inhalation Toxicity (LC50) |
|---|---|---|---|
| LIMESTONE (CALCIUM CARBONATE) | > 5000 mg/kg (rat) | -- | -- |

**Skin** Not classified as a skin irritant. Contact may result in mild irritation, redness and rash.

**Eye** Not classified as an eye irritant. However, direct contact may result in mild irritation, lacrimation, pain and redness. Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Not classified as a mutagen. Insufficient data available to classify as a mutagen.

**Carcinogenicity** Insufficient data available to classify as a carcinogen.

**Reproductive** Insufficient data available to classify as a reproductive toxin.

**STOT - single exposure** Not classified as causing organ damage from single exposure.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure. Chronic exposure to respirable silica may result in pulmonary fibrosis (silicosis). However, given the low levels present, over exposure is not anticipated.

**Aspiration** This product does not present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Calcium carbonate occurs naturally in a wide variety of substances including limestone, marble and egg shells. It is not anticipated to cause adverse environmental effects.

### 12.2 Persistence and degradability

Dissolved calcium carbonate dissociates into calcium and carbonate ions. Calcium ions will be assimilated by living organisms in the water and the carbonate will become part of the carbon cycle.

### 12.3 Bioaccumulative potential

This product does not bioaccumulate.

### 12.4 Mobility in soil

Due to its limited solubility, calcium carbonate precipitates and deposits on the sediment.

### 12.5 Other adverse effects

Avoid contamination of drains and waterways.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** None allocated.

**Risk phrases** None allocated.

**Safety phrases** None allocated.

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

EXPOSURE CONTROL: If utilised in a closed system the potential for over exposure is reduced. If not used in a closed system, local exhaust ventilation is recommended to control exposure. Provide eye wash and safety shower in close proximity to points of potential exposure. Where the potential for an inhalation risk exists, an approved respirator may be required. Do not eat, store, consume food, tobacco or drink in areas where product is used.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **FLEXFIRM**

**Synonyms** FLEXFIRM KA ● POTASSIUM SILICATE POWDER

### 1.2 Uses and uses advised against

**Uses** DRILLING AID

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**Physical Hazards**

Not classified as a Physical Hazard

**Health Hazards**

Acute Toxicity: Oral: Category 4
Skin Corrosion/Irritation: Category 2
Serious Eye Damage / Eye Irritation: Category 2A
Specific Target Organ Toxicity (Single Exposure): Category 3 (Respiratory Irritation)
Specific Target Organ Toxicity (Repeated Exposure): Category 2

**Environmental Hazards**

Not classified as an Environmental Hazard

### 2.2 GHS Label elements

**Signal word** **WARNING**

**Pictograms**

**Hazard statements**

| | |
|---|---|
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |

**Prevention statements**

| | |
|---|---|
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P264 | Wash thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |

**Response statements**

| | |
|---|---|
| P301 + P312 | IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. |
| P302 + P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P304 + P340 | IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P314 | Get medical advice/attention if you feel unwell. |
| P321 | Specific treatment is advised - see first aid instructions. |
| P330 | Rinse mouth. |
| P332 + P337 + P313 | If skin or eye irritation occurs: Get medical advice/ attention. |
| P362 | Take off contaminated clothing and wash before re-use. |

**Storage statements**

| | |
|---|---|
| P403 + P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P405 | Store locked up. |

**Disposal statements**

| | |
|---|---|
| P501 | Dispose of contents/container in accordance with relevant regulations. |

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| POTASSIUM SILICATE | 1312-76-1 | 215-199-1 | 99% |
| QUARTZ (CRYSTALLINE SILICA) | 14808-60-7 | 238-878-4 | 0.1 to 1% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** None allocated.

### 4.2 Most important symptoms and effects, both acute and delayed

Irritating to the eyes and skin.

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve toxic gases if strongly heated.

### 5.3 Advice for firefighters

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code

None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Ventilate area where possible.

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

### 7.3 Specific end uses

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Quartz (respirable dust) | SWA [AUS] | -- | 0.05 | -- | -- |
| Quartz (respirable dust) | WorkSafe VIC | -- | 0.05 | -- | -- |

**Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | WHITE POWDER |
| **Odour** | ODOURLESS |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 11.3 (50 % solution) (Approximately) |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | NOT AVAILABLE |
| **Solubility (water)** | SOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve toxic gases if heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** Harmful if swallowed.

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| POTASSIUM SILICATE | 1600 mg/kg (rat) | -- | -- |

**Skin** Contact may result in irritation, redness, rash and dermatitis.

**Eye** Contact may result in irritation, lacrimation, pain and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Not classified as a mutagen.

**Carcinogenicity** Crystalline silica is classified as carcinogenic to humans (IARC Group 1). However, there is a body of evidence supporting the fact that increased cancer risk would be limited to people already suffering from silicosis.

**Reproductive** Not classified as a reproductive toxin.

**STOT - single exposure** Over exposure may result in irritation of the nose and throat, with coughing. High level exposure may result in breathing difficulties.

**STOT - repeated exposure** Repeated exposure to respirable silica may result in pulmonary fibrosis (silicosis). Silicosis is a fibronodular lung disease caused by deposition in the lungs of fine respirable particles of crystalline silica. Principal symptoms of silicosis are coughing and breathlessness.

**Aspiration** Not classified as causing aspiration.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

The high pH when undiluted or unneutralized is acutely harmful to aquatic life. The following data is reported for chemically similar Sodium Silicates on a 100% solids basis: A 96 hour median tolerance for fish (Gambusia affnis) of 2320 ppm; a 96 hour median tolerance for water fleas (Daphnia magna) of 247 ppm; a 96 hour median tolerance for snail eggs (Lymnea) of 632 ppm; and a 96 hour median tolerance for Amphipoda of 160 ppm.

### 12.2 Persistence and degradability

This material is not persistent in aquatic systems.

### 12.3 Bioaccumulative potential

Neither silica nor potassium will appreciably bio-concentrate up the food chain.

### 12.4 Mobility in soil

Expected to be mobile in soil. Diluted material rapidly depolymerizes to yield dissolved silica in a form that is indistinguishable from natural dissolved silica.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Collect without generating dust. Place in clean, sealed containers and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** Classified as a Schedule 5 (S5) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**
All components are listed on AIIC, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **SPA**

**Synonyms** SODIUM POLYACRYLATE

### 1.2 Uses and uses advised against

**Uses** DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| ACRYLATE - ACRYLAMIDE COPOLYMER(S) | - | - | 100% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture
Non flammable. May evolve toxic gases (carbon/ nitrogen oxides, amines, ammonia, hydrocarbons) when heated to decomposition. As with many solids, any dust that is generated may be explosive if mixed with air in critical proportions and in the presence of a source of ignition.

### 5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled and tightly closed when not in use.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Acrylamide | SWA [AUS] | -- | 0.03 | -- | -- |

**Biological limits** No Biological Limit Value allocated.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | CREAM GRANULAR SOLID |
| **Odour** | SLIGHT ODOUR |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | NOT AVAILABLE |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 0.8 |
| **Solubility (water)** | 10 g/L |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

### 9.2 Other information

| | |
|---|---|
| **% Volatiles** | 5 - 10 % |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve toxic gases (carbon/ nitrogen oxides, amines, ammonia, hydrocarbons) when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

| | |
|---|---|
| **Acute toxicity** | This product is expected to be of low toxicity. Based on available data, the classification criteria are not met. |
| **Skin** | Not classified as a skin irritant. Prolonged or repeated contact may result in mild irritation, rash and dermatitis. |
| **Eye** | Not classified as an eye irritant. Contact may result in mild irritation, lacrimation and redness. |
| **Sensitisation** | Not classified as causing skin or respiratory sensitisation. |
| **Mutagenicity** | Insufficient data available to classify as a mutagen. |
| **Carcinogenicity** | Insufficient data available to classify as a carcinogen. This product may contain trace amounts of residual acrylamide, which is classified as a probable human carcinogen (IARC Group 2A). However, due to the very low levels present, adverse health effects are not anticipated with normal use. |
| **Reproductive** | Insufficient data available to classify as a reproductive toxin. |
| **STOT - single exposure** | Not classified as causing organ damage from single exposure. |
| **STOT - repeated exposure** | Not classified as causing organ damage from repeated exposure. |
| **Aspiration** | Not classified as causing aspiration. |

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

(10000 ppm test concentration) (EPA-821-R-02-012) Mysidopsis Bahia = 48HR LC50 = 16.2 mg/L. Menidia Beryllina = 48hr LC50 = 34.2 mg/L. Scophthalmus Maximus = 96hr LC50 > 1000 mg/L. Skeletonemia Costatum = 72hr EC50 = 393 mg/L [NOEC = 118 mg/L] Acartia Tonsa = 48hr EC50 = 393 mg/L [NOEC = 112 mg/L] Corophium Volutator = 10 day LC50 = 9338 mg/Kg [NOEC = 1000 mg/Kg]

### 12.2 Persistence and degradability

No information provided.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

| | |
|---|---|
| **Waste disposal** | Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required). |
| **Legislation** | Dispose of in accordance with relevant local legislation. |

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

ACRYLIC - ACRYLAMIDE RESINS: These resins are generally of low toxicity. Toxicity increases with presence of significant concentrations of acrylic - acrylamide monomers. These monomers have been linked with the development of skin sensitisation.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **FRACSEAL FINE/MEDIUM**

**Synonyms** FRACSEAL F ● FRACSEAL FINE ● FRACSEAL M ● FRACSEAL MEDIUM

### 1.2 Uses and uses advised against

**Uses** DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| CELLULOSE | 9004-34-6 | 232-674-9 | 100% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** Exposure is considered unlikely. Skin irritation is not anticipated.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Due to product form and application, ingestion is considered unlikely.

**First aid facilities** None allocated.

### 4.2 Most important symptoms and effects, both acute and delayed

This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains or waterways.

### 5.2 Special hazards arising from the substance or mixture
Combustible. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Finely divided dust may form explosive mixtures with air.

### 5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Moisten with water to prevent a dust hazard and place in sealable containers for disposal.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for damage to containers.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Cellulose (paper fibre) (a) | SWA [AUS] | -- | 10 | -- | -- |

**Biological limits**
No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Maintain dust levels below the recommended exposure standard.

**PPE**

| | |
|---|---|
| **Eye / Face** | When using large quantities or where heavy contamination is likely, wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | YELLOW TO BROWN SOLID |
| **Odour** | ODOURLESS |
| **Flammability** | COMBUSTIBLE |
| **Flash point** | NOT AVAILABLE |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | 500°C to 518°C |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 6.5 to 7.5 |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 0.9 |
| **Solubility (water)** | INSOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT AVAILABLE |
| **Lower explosion limit** | NOT AVAILABLE |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites).

### 10.6 Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated.
Oral LD50 (rat) is > 5000 mg/kg.
Dermal LD50 (rabbit) is > 2000 mg/kg.
LC50 (rat) is 510 mg/m³/2 hours.

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| CELLULOSE | > 5000 mg/kg (rat) | > 2000 mg/kg (rabbit) | > 5800 mg/m³/4 hours (rat) |

**Additional ingredient toxicity values:**

CELLULOSE (9004-34-6)
LD50 (intraperitoneal) > 31600 mg/kg (rat)

**Skin** Not classified as a skin irritant.

**Eye** Not classified as an eye irritant. Contact may cause mild discomfort.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** No evidence of mutagenic effects.

**Carcinogenicity** No evidence of carcinogenic effects.

**Reproductive** No relevant or reliable studies were identified.

**STOT - single exposure** Not classified as causing organ damage from single exposure.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** Not relevant.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity
No information provided.

### 12.2 Persistence and degradability
No information provided.

### 12.3 Bioaccumulative potential
No information provided.

### 12.4 Mobility in soil
No information provided.

### 12.5 Other adverse effects
No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Reuse where possible. No special precautions are normally required when handling this product.

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **QUICKSEAL (F,M,C)**

**Synonyms** QUICKSEAL

### 1.2 Uses and uses advised against

**Uses** DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| CELLULOSE | 9004-34-6 | 232-674-9 | 100% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** None allocated.

### 4.2 Most important symptoms and effects, both acute and delayed

Adverse effects not expected from this product under normal conditions of use.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains or waterways.

### 5.2 Special hazards arising from the substance or mixture
Combustible. May evolve carbon oxides and hydrocarbons when heated to decomposition. Dust may form explosive mixtures with air.

### 5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Difficult to extinguish once burning.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Moisten with water to prevent a dust hazard and place in sealable containers for disposal.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are labelled, protected from light, freezing or physical damage and tightly sealed when not in use. Keep out of reach of children.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Cellulose (paper fibre) (a) | SWA [AUS] | -- | 10 | -- | -- |

**Biological limits** No Biological Limit Value allocated.

### 8.2 Exposure controls
**Engineering controls** Avoid inhalation. Use in well ventilated areas.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | YELLOW TO BROWN SOLID |
| **Odour** | SLIGHT ODOUR |
| **Flammability** | COMBUSTIBLE |
| **Flash point** | NOT AVAILABLE |
| **Boiling point** | NOT RELEVANT |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 7 to 8 |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 0.9 - 1.2 |
| **Solubility (water)** | INSOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with calcium oxides, bleaching powder, perchlorates, perchloric acid, sodium chlorate, fluorine, nitric acid, sodium nitrate and sodium nitrite.

### 10.6 Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated.
Acute Oral Toxicity: LD50 (oral) > 5000 mg/kg (rats).
Acute Dermal Toxicity: LD50 (dermal) > 2000 mg/kg (rats).
Acute Inhalation Toxicity: LC50 (Inhalation) = 5800 mg/m3/4hrs (rat).

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| CELLULOSE | > 5000 mg/kg (rat) | > 2000 mg/kg (rabbit) | > 5800 mg/m³/4 hours (rat) |

**Additional ingredient toxicity values:**

CELLULOSE (9004-34-6)
LD50 (intraperitoneal) > 31600 mg/kg (rat)

**Skin** Not classified as a skin irritant. Contact may result in mechanical irritation, redness and rash.

**Eye** Not classified as an eye irritant. However, this product may cause mechanical eye irritation with redness and lacrimation.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** No evidence of mutagenic effects.

**Carcinogenicity** No evidence of carcinogenic effects.

**Reproductive** No relevant or reliable studies were identified.

**STOT - single exposure** Not classified as causing organ damage from single exposure.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** This product does not present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity
Low toxicity to aquatic organisms.

### 12.2 Persistence and degradability
This product is readily biodegradable.

### 12.3 Bioaccumulative potential
This product is not expected to bioaccumulate.

### 12.4 Mobility in soil
No information provided.

### 12.5 Other adverse effects
No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Reuse where possible. No special precautions are normally required when handling this product.

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **AVAGREEN LUBE**

**Synonyms** AVA GREEN LUBE ● GREEN LUBE

### 1.2 Uses and uses advised against

**Uses** DRILLING FLUID ● LUBRICANT

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| METHYL ESTERS OF FATTY ACIDS | 68990-52-3 | 273-606-8 | 100% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed
Adverse effects not expected from this product under normal conditions of use.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Dry agent, carbon dioxide or foam. Prevent contamination of drains and waterways.

### 5.2 Special hazards arising from the substance or mixture
Combustible. May evolve carbon oxides and hydrocarbons when heated to decomposition.

### 5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Large storage areas should have appropriate ventilation systems.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear splash-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Type A (Organic vapour) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Appearance** | YELLOW LIQUID |
| **Odour** | SWEET VEGETABLE ODOUR |
| **Flammability** | CLASS C2 COMBUSTIBLE |
| **Flash point** | 180°C |
| **Boiling point** | > 300°C |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | NOT AVAILABLE |
| **Vapour density** | NOT AVAILABLE |
| **Relative density** | 0.91 to 0.92 |
| **Solubility (water)** | INSOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT AVAILABLE |
| **Lower explosion limit** | NOT AVAILABLE |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | 260°C |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials
Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), heat and ignition sources.

### 10.6 Hazardous decomposition products
May evolve carbon oxides and hydrocarbons when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

| | |
|---|---|
| **Acute toxicity** | This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated. |
| **Skin** | Not classified as a skin irritant. Contact may cause temporary mild skin irritation. |
| **Eye** | Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness. |
| **Sensitisation** | Not classified as causing skin or respiratory sensitisation. |
| **Mutagenicity** | No evidence of mutagenic effects. |
| **Carcinogenicity** | No evidence of carcinogenic effects. |
| **Reproductive** | No relevant or reliable studies were identified. |
| **STOT - single exposure** | Not classified as causing organ damage from single exposure. |
| **STOT - repeated exposure** | Not classified as causing organ damage from repeated exposure. |
| **Aspiration** | This product does not present an aspiration hazard. |

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity
LC50 (Fish) 48 h: > 10000 µg / L
LC50 (Mollusc ) 48 h: > 10000 µg /L
LC50 (Amphibious) 48 h: > 7600 µg/L

### 12.2 Persistence and degradability
70% 28 days (method OECD 301 B

### 12.3 Bioaccumulative potential
Low potential for bioaccumulation.

### 12.4 Mobility in soil
It is not volatile and not expected to persist in the environment.

### 12.5 Other adverse effects
No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

| | |
|---|---|
| **Waste disposal** | For small amounts, absorb with sand, vermiculite or similar and dispose of to an approved landfill site. For large quantities, contact the manufacturer/supplier for additional information. |
| **Legislation** | Dispose of in accordance with relevant local legislation. |

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

**Inventory listings** **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**
All components are listed on AIIC, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| $mg/m^3$ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **ZINC OXIDE**

**Synonyms** ZINC WHITE

### 1.2 Uses and uses advised against

**Uses** SCAVENGER

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**Physical Hazards**

Not classified as a Physical Hazard

**Health Hazards**

Not classified as a Health Hazard

**Environmental Hazards**

Aquatic Toxicity (Chronic): Category 1

### 2.2 GHS Label elements

**Signal word** **WARNING**

**Pictograms**

**Hazard statements**

H410 Very toxic to aquatic life with long lasting effects.

**Prevention statements**

P273 Avoid release to the environment.

**Response statements**

P391 Collect spillage.

**Storage statements**

None allocated.

**Disposal statements**

P501 Dispose of contents/container in accordance with relevant regulations.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| ZINC OXIDE | 1314-13-2 | 215-222-5 | >99% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

Adverse effects not expected from this product under normal conditions of use.

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve zinc oxides when heated to decomposition.

### 5.3 Advice for firefighters

Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire.

### 5.4 Hazchem code

2Z

2 Fine Water Spray.

Z Wear full fire kit and breathing apparatus. Contain spill and run-off.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Ventilate area where possible.

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

### 7.3 Specific end uses

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Zinc oxide (dust) | SWA [AUS] | -- | 10 | -- | -- |
| Zinc oxide (fume) | SWA [AUS] | -- | 5 | -- | 10 |

**Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | WHITE TO YELLOW-WHITE POWDER |
| **Odour** | ODOURLESS |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | 1975°C |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | NOT AVAILABLE |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | NOT AVAILABLE |
| **Solubility (water)** | INSOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity
Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability
Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions
Polymerization is not expected to occur.

### 10.4 Conditions to avoid
Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials
Incompatible with metals if heated and with acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products
May evolve zinc oxides when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** This product is expected to be of low toxicity. Based on available data, the classification criteria are not met.

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| ZINC OXIDE | 7950 mg/kg (mouse) | -- | 2500 mg/m³ (mouse) |

**Additional ingredient toxicity values:**

ZINC OXIDE (1314-13-2)

| | |
|---|---|
| LD50 (intraperitoneal) | 240 mg/kg (rat) |
| LDLo (oral) | 500 mg/kg (human) |
| TCLo (inhalation) | 600 mg/m³ (human) |

**Skin** Not classified as a skin irritant. Prolonged or repeated contact may result in mild irritation.

**Eye** Not classified as an eye irritant. Contact may result in mild irritation, lacrimation and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Insufficient data available to classify as a mutagen.

**Carcinogenicity** Insufficient data available to classify as a carcinogen.

**Reproductive** Insufficient data available to classify as a reproductive toxin.

**STOT - single exposure** Not classified as causing organ damage from single exposure. Inhalation of freshly formed zinc oxide fumes may result in the development of a flu-like illness termed metal fume fever.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** Not relevant.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity
Very toxic to aquatic life with long lasting effects.

### 12.2 Persistence and degradability
This product is not readily biodegradable.

### 12.3 Bioaccumulative potential

All living organisms have homeostasis mechanisms that actively regulate zinc uptake and absorption/excretion from the body; due to this regulation, zinc and zinc compounds do not bioaccumulate or biomagnify.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Collect and place in sealable containers and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | 3077 | 3077 | 3077 |
| **14.2 Proper Shipping Name** | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |
| **14.3 Transport hazard class** | 9 | 9 | 9 |
| **14.4 Packing Group** | III | III | III |

### 14.5 Environmental hazards

Marine Pollutant

### 14.6 Special precautions for user

**Hazchem code** 2Z

**GTEPG** 9C1

**EmS** F-A, S-F

**Other information** The environmentally hazardous substance mark is not required when transported in packages of less than 5 kg/L (UN Model Regulations: Special Provision 375; IATA: Special Provision A197; IMDG: Special Provision 969) or less than 500 kg/L by Australian Road and Rail.

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
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HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
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| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

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It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

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**[ End of SDS ]**

# SAFETY DATA SHEET

## VICTOSAL HT

**Issue Date** 24-Feb-2017 **Revision Date** 14-Nov-2019 **Version** 1.1

## 1. Identification

### 1.1. Product identifier

**Product Name** VICTOSAL HT

**Pure substance/mixture** Substance

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Viscosifier

**Uses advised against** No information available

### 1.3. Details of the supplier of the safety data sheet

**Supplier**
Newpark Drilling Fluids
Via Salaria 1313/C
00138 ROMA (Italy)

For further information, please contact
Contact Point Telephone: + 39 06 8856111
Fax: +39 06 8889363
Website: www.newpark.com
**E-mail address** laboratorio.roma@newpark.com

### 1.4. Emergency telephone number

Emergency Telephone +39 06 885611386 / +39 06 885611324 / + 39 06 8856111

| **Emergency Telephone - §45 - (EC)1272/2008** | |
|---|---|
| **Europe** | **112** |
| **France** | +(33)-975181407 |
| **Germany** | 0800-181-7059; +(49)- 69643508409 |
| **Hungary** | +(36)-18088425 |
| **Italy** | 800-789-767; +(39)-0245557031<br>Milano 24/24<br>Ospedale Niguarda Ca'grande<br>Piazza ospedale maggiore 3<br>+39 0266101029<br><br>Roma 24/24<br>Policlinico Gemelli<br>Largo Agostino Gemelli 8<br>+39 063054343 |
| **Netherlands** | +(31)-858880596 |
| **Romania** | (+40)-37-6300026 |
| **Spain** | 900-868538; +(34)-931768545 |
| **United Kingdom** | +(44)-870-8200418 |

## 2. Hazard(s) identification

**2.1. Classification of the substance or mixture**

*Regulation (EC) No 1272/2008*

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

**2.2. Label elements**

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

**Hazard statements**

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

**2.3. Other hazards**

## 3. Composition/information on ingredients

**3.1 Substances**

**Full text of H- and EUH-phrases: see section 16**

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

## 4. First-aid measures

**4.1. Description of first aid measures**

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**4.2. Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**4.3. Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## 5. Fire-fighting measures

**5.1. Extinguishing media**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Large Fire** CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

**5.2. Special hazards arising from the substance or mixture**

| | |
|---|---|
| **Specific hazards arising from the chemical** | No information available. |
| **Hazardous combustion products** | Carbon oxides. |

**5.3. Advice for firefighters**

| | |
|---|---|
| **Special protective equipment for fire-fighters** | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | Ensure adequate ventilation. |
| **For emergency responders** | Use personal protection recommended in Section 8. |

**6.2. Environmental precautions**

| | |
|---|---|
| **Environmental precautions** | See Section 12 for additional Ecological Information. |

**6.3. Methods and material for containment and cleaning up**

| | |
|---|---|
| **Methods for containment** | Prevent further leakage or spillage if safe to do so. |
| **Methods for cleaning up** | Take up mechanically, placing in appropriate containers for disposal. |
| **Prevention of secondary hazards** | Clean contaminated objects and areas thoroughly observing environmental regulations. |

**6.4. Reference to other sections**

| | |
|---|---|
| **Reference to other sections** | See section 8 for more information. See section 13 for more information. |

## 7. Handling and storage

**7.1. Precautions for safe handling**

| | |
|---|---|
| **Advice on safe handling** | Ensure adequate ventilation. |
| **General hygiene considerations** | Handle in accordance with good industrial hygiene and safety practice. |

**7.2. Conditions for safe storage, including any incompatibilities**

| | |
|---|---|
| **Storage Conditions** | Keep container tightly closed in a dry and well-ventilated place. |

**7.3. Specific end use(s)**

| | |
|---|---|
| **Risk Management Methods (RMM)** | The information required is contained in this Safety Data Sheet. |

## 8. Exposure controls/personal protection

**8.1. Control parameters**

| | |
|---|---|
| **Exposure Limits** | This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. |

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

**8.2. Exposure controls**

**Personal protective equipment**

**Eye/face protection** No special protective equipment required.

**Skin and body protection** No special protective equipment required.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No information available.

## 9. Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | liquid |
| **Appearance** | Powder |
| **Color** | Off-white |
| **Odor** | Slight. |
| **Odor threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 9.0 - 11.4 | |
| **Melting point / freezing point** | | No data available |
| **Boiling point / boiling range** | | No data available |
| **Flash point** | > 125 °C | |
| **Evaporation rate** | | No data available |
| **Flammability (solid, gas)** | | No data available |
| **Flammability Limit in Air** | | No data available |
| **Upper flammability limit:** | | |
| **Lower flammability limit:** | | |
| **Vapor pressure** | | No data available |
| **Vapor density** | | No data available |
| **Relative density** | | No data available |
| **Water solubility** | Soluble in water | |
| **Solubility(ies)** | | No data available |
| **Partition coefficient** | | No data available |
| **Autoignition temperature** | | No data available |
| **Decomposition temperature** | | No data available |
| **Kinematic viscosity** | | Not applicable |
| **Dynamic viscosity** | | Not applicable |
| **Explosive properties** | No information available | |
| **Oxidizing properties** | No information available | |

**9.2. Other information**

**Softening point** No information available

| | |
|---|---|
| **Molecular weight** | No information available |
| **VOC Content (%)** | No information available |
| **Liquid Density** | No information available |
| **Bulk density** | 550-700 |

## 10. Stability and reactivity

**10.1. Reactivity**

| | |
|---|---|
| **Reactivity** | No information available. |
| **Remarks** | Not reactive under normal conditions. |

**10.2. Chemical stability**

**Stability** Stable under normal conditions.

**Explosion data**

| | |
|---|---|
| **Sensitivity to mechanical impact** | None. |
| **Sensitivity to static discharge** | None. |

**10.3. Possibility of hazardous reactions**

**Possibility of hazardous reactions** None under normal processing.

**10.4. Conditions to avoid**

**Conditions to avoid** None known based on information supplied.

**10.5. Incompatible materials**

**Incompatible materials** None known based on information supplied.

**10.6. Hazardous decomposition products**

**Hazardous Decomposition Products** Thermal decomposition can lead to release of irritating and toxic gases and vapors.

## 11. Toxicological information

**11.1. Information on toxicological effects**

**Information on likely routes of exposure**

**Product Information** .

| | |
|---|---|
| **Inhalation** | Specific test data for the substance or mixture is not available. |
| **Eye contact** | Specific test data for the substance or mixture is not available. |
| **Skin contact** | Specific test data for the substance or mixture is not available. |
| **Ingestion** | Specific test data for the substance or mixture is not available. |

**Information on toxicological effects**

**Symptoms** No information available.

**Numerical measures of toxicity**
No information available

**Acute toxicity**

**Unknown acute toxicity** 100 % of the mixture consists of ingredient(s) of unknown toxicity.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

## 12. Ecological information

**12.1. Toxicity**

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Unknown Aquatic Toxicity** Contains 100 % of components with unknown hazards to the aquatic environment.

**12.2. Persistence and degradability**

**Persistence and degradability** No information available.

**12.3. Bioaccumulative potential**

**Bioaccumulation** No information available.

**12.4. Mobility in soil**

**Mobility in soil** No information available.

**12.5. Results of PBT and vPvB assessment**

**PBT and vPvB assessment** No information available.

**12.6. Other adverse effects**

**Other adverse effects** No information available.

## 13. Disposal considerations

**13.1. Waste treatment methods**

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| **Contaminated packaging** | Do not reuse empty containers. |
| **Other Information** | Waste codes should be assigned by the user based on the application for which the product was used. |

## 14. Transport information

**IMDG**

| | |
|---|---|
| **14.1 UN/ID no** | Not Regulated |
| **14.2 Proper shipping name** | Not Regulated |
| **14.3 Hazard Class** | Not Regulated |
| **14.4 Packing Group** | Not Regulated |
| **14.5 Marine pollutant** | Not applicable |
| **14.6 Special Provisions** | None |
| **14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code** | No information available |

**RID**

| | |
|---|---|
| **14.1 UN/ID no** | Not Regulated |
| **14.2 Proper shipping name** | |
| **14.3 Hazard Class** | Not Regulated |
| **14.4 Packing Group** | Not Regulated |
| **14.5 Environmental hazard** | Not applicable |
| **14.6 Special Provisions** | None |

**ADR**

| | |
|---|---|
| **14.1 UN/ID no** | Not Regulated |
| **14.2 Proper shipping name** | Not Regulated |
| **14.3 Hazard Class** | Not Regulated |
| **14.4 Packing Group** | Not Regulated |
| **14.5 Environmental hazard** | Not applicable |
| **14.6 Special Provisions** | None |

**IATA** Not Regulated

| | |
|---|---|
| **14.1 UN/ID no** | Not Regulated |
| **14.2 Proper shipping name** | Not Regulated |
| **14.3 Hazard Class** | Not Regulated |
| **14.4 Packing Group** | Not Regulated |
| **14.5 Environmental hazard** | Not applicable |
| **14.6 Special Provisions** | None |

## 15. Regulatory information

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Italy**

-D. LGs. 81/2008 (single text on the protection of health and safety in the workplace) and subsequent amendments and Directive 2009/161/EU-assessment of chemical risk under title IX

-Legislative Decree 3 April 2006, no 152 (environmental standards)

-"Seveso III Directive" – Legislative Decree of 26 June 2015, n° 105 (Implementation of the Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances)

**European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

**Authorizations and/or restrictions on use:**
This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

**Persistent Organic Pollutants**
Not applicable

**Ozone-depleting substances (ODS) regulation (EC) 1005/2009** Not applicable

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Complies |
| **ENCS** | Complies |
| **IECSC** | Complies |
| **KECL** | Complies |
| **PICCS** | Complies |
| **AICS** | Complies |
| **NZIoC** | Complies |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals

**15.2. Chemical safety assessment**

**Chemical Safety Report** No information available

## 16. Other information

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend**
SVHC: Substances of Very High Concern for Authorization:

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |

**Key literature references and sources for data used to compile the SDS**
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

**Issue Date** 24-Feb-2017

**Revision Date** 14-Nov-2019

**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

**Disclaimer**
**According to Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006, as amended by Regulation (EU) No. 2015/830.**
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**End of Safety Data Sheet**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **VICTOSAL NS**

**Synonyms** NEWPARK VICTOSAL NS

### 1.2 Uses and uses advised against

**Uses** DRILLING FLUID ADDITIVE ● FILTRATE REDUCER ● VISCOSIFIER

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| STARCH | 9005-25-8 | 232-679-6 | 100% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** Due to product form / nature of use, an inhalation hazard is not anticipated.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Due to product form and application, ingestion is considered unlikely.

**First aid facilities** None allocated.

### 4.2 Most important symptoms and effects, both acute and delayed
Adverse effects not expected from this product under normal conditions of use.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains or waterways.

### 5.2 Special hazards arising from the substance or mixture
Combustible. May evolve carbon oxides and hydrocarbons when heated to decomposition.

### 5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Starch (a) | SWA [AUS] | -- | 10 | -- | -- |

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** No special precautions are normally required when handling this product. Maintain dust levels below the recommended exposure standard.

**PPE**

| | |
|---|---|
| **Eye / Face** | When using large quantities or where heavy contamination is likely, wear dust-proof goggles. |
| **Hands** | When using large quantities or where heavy contamination is likely, wear PVC or rubber gloves. |
| **Body** | Not required under normal conditions of use. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Appearance** | WHITE POWDER |
| **Odour** | ODOURLESS |
| **Flammability** | COMBUSTIBLE |
| **Flash point** | NOT AVAILABLE |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | NOT AVAILABLE |
| **Vapour density** | NOT AVAILABLE |
| **Relative density** | 0.55 |
| **Solubility (water)** | 150 g/L |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT AVAILABLE |
| **Lower explosion limit** | NOT AVAILABLE |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

**9.2 Other information**

| | |
|---|---|
| **Bulk density** | 550 - 700 kg/m3 |

## 10. STABILITY AND REACTIVITY

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites).

**10.6 Hazardous decomposition products**

May evolve carbon oxides and hydrocarbons when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated.

**Skin** Not classified as a skin irritant. Contact may result in mild irritation.

**Eye** Not classified as an eye irritant. Contact may cause mild irritation and lacrimation.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** No evidence of mutagenic effects.

**Carcinogenicity** No evidence of carcinogenic effects.

**Reproductive** No relevant or reliable studies were identified.

**STOT - single exposure** No known effects from this product.

**STOT - repeated exposure** No known effects from this product.

**Aspiration** Not relevant.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.

### 12.2 Persistence and degradability

No information provided.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** No special precautions are required for the disposal of this product.

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

### 14.5 Environmental hazards

Not a Marine Pollutant.

### 14.6 Special precautions for user

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

**Inventory listings** **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**
All components are listed on AIIC, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

WORKPLACE CONTROLS AND PRACTICES: Unless a less toxic chemical can be substituted for a hazardous substance, ENGINEERING CONTROLS are the most effective way of reducing exposure. The best protection is to enclose operations and/or provide local exhaust ventilation at the site of chemical release. Isolating operations can also reduce exposure. Using respirators or protective equipment is less effective than the controls mentioned above, but is sometimes necessary.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

# SAFETY DATA SHEET

## NDFT 530

**Issue Date** 30-Dec-2021 **Revision Date** 30-Dec-2021 **Version** 1
EN

## Section 1: IDENTIFICATION: PRODUCT INDENTIFIER AND CHEMICAL IDENTITY

**Product identifier**

**Product Name** NDFT 530

**Product Code** NDF00865

**Other means of identification**

**Pure substance/mixture** Substance

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Fluid loss control additive

**Uses advised against** No information available

**Details of manufacturer or importer**

**Supplier**
Newpark Drilling Fluids (Australia) LTD
11 Alacrity Place
Henderson, WA, 6166
Australia

For further information, please contact

**Contact Point** Telephone: +61 8 9410 8200
Fax: +61 8 9410 8299
Website: www.newpark.com

**Emergency telephone number**

Emergency telephone number +(61)-290372994 (Australia); +(64)-98010034 (New Zealand)

## Section 2: HAZARD(S) IDENTIFICATION

**GHS - Classification**

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Label elements**

**Hazard statements**
Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Other hazards which do not result in classification**

**General Hazards**

No information available

## Section 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8

**Substance**

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Non-hazardous ingredients | - | 100 |

## Section 4: FIRST AID MEASURES

**Description of first aid measures**

**Emergency telephone number** Poisons Information Center, Australia: 13 11 26
Poisons Information Center, New Zealand: 0800 764 766

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## Section 5: FIREFIGHTING MEASURES

**Suitable Extinguishing Media**

**Suitable extinguishing media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Do not allow run-off from fire-fighting to enter drains or water courses.

**Special protective actions for fire-fighters**

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**Hazchem code** Not Listed.

## Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Precautions to prevent secondary hazards**

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## Section 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

**Precautions for safe handling**

**Advice on safe handling** Ensure adequate ventilation, especially in confined areas.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

## Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Control parameters**

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Biological occupational exposure limits** Not applicable

**Appropriate engineering controls**

**Engineering controls** Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear suitable protective clothing.

**Respiratory protection** In case of inadequate ventilation wear respiratory protection.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical state** | Powder | | |
| **Appearance** | Powder | **Odor** | No information available. |
| **Color** | Off-white to light yellow | **Odor threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | | No information available |
| **Melting point / freezing point** | | No information available |
| **Boiling point / boiling range** | | No information available |
| **Flash point** | | No information available |
| **Evaporation rate** | | No information available |
| **Flammability (solid, gas)** | | No information available |
| **Flammability Limit in Air** | | No information available |
| **Upper flammability limit:** | | No data available |
| **Lower flammability limit:** | | No data available |
| **Vapor pressure** | | No data available |
| **Vapor density** | | No data available |
| **Relative density** | | No information available |
| **Water solubility** | Soluble in water | |
| **Solubility(ies)** | | No information available |
| **Partition coefficient** | | No information available |
| **Autoignition temperature** | | No information available |
| **Hyphen** | | No information available |
| **Kinematic viscosity** | | |
| **Dynamic viscosity** | | |

**Other information**

| | |
|---|---|
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC Content (%)** | No information available |
| **Liquid Density** | No information available |
| **Bulk density** | No information available |
| **Particle Size** | No information available |
| **Particle Size Distribution** | No information available |

## Section 10: STABILITY AND REACTIVITY

**Reactivity**

**Reactivity** No information available.

**Chemical stability**

**Stability** Stable under normal conditions.

**Explosion data**

**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** None.

**Possibility of hazardous reactions**

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid**

**Conditions to avoid** None known based on information supplied.

**Incompatible materials**

**Incompatible materials** None known based on information supplied.

**Hazardous decomposition products**

**Hazardous Decomposition Products** None known based on information supplied.

## Section 11: TOXICOLOGICAL INFORMATION

**Acute toxicity**

**Information on likely routes of exposure**

**Product Information** .

**Inhalation** Specific test data for the substance or mixture is not available.

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available

**Symptoms** No information available.

**Numerical measures of toxicity - Product Information**

**Unknown acute toxicity** 100 % of the mixture consists of ingredient(s) of unknown toxicity
100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

*See section 16 for terms and abbreviations*

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Unknown aquatic toxicity** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

**Persistence and degradability**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

**Other adverse effects** No information available.

## Section 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## Section 14: TRANSPORT INFORMATION

**ADG** Not Regulated

**IATA** Not Regulated

**IMDG** Not Regulated

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
No information available

## Section 15: REGULATORY INFORMATION

**Regulatory information**

**National regulations**

**Australia**
See section 8 for national exposure control parameters

**Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)**
No poisons schedule number allocated

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Does not comply |
| **ENCS** | Complies |
| **IECSC** | Complies |
| **KECL** | Complies |
| **PICCS** | Complies |
| **AICS** | Complies |
| **NZIoC** | Complies |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**Brunei Poison List** Not applicable.

## Section 16: ANY OTHER RELEVANT INFORMATION

**Issue Date** 30-Dec-2021

**Revision Date** 30-Dec-2021

**Revision Note**
No information available.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

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**End of Safety Data Sheet**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **GEOVIS**

**Synonyms** DIUTAN GUM

### 1.2 Uses and uses advised against

**Uses** VISCOSITY MODIFIER

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| D-GLUCURONO-6-DEOXY-L-MANNO-D-GLUCAN, ACETATE, CALCIUM MAGNESIUM POTASSIUM SODIUM SALT | 595585-15-2 | - | >50% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form.

**First aid facilities** None allocated.

### 4.2 Most important symptoms and effects, both acute and delayed
Adverse effects not expected from this product under normal conditions of use.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains or waterways.

### 5.2 Special hazards arising from the substance or mixture
Combustible. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Finely divided dust may form explosive mixtures with air.

### 5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled and tightly closed when not in use.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls
**Engineering controls** Avoid inhalation. Use in well ventilated areas.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | WHITE TO TAN POWDER |
| **Odour** | SLIGHT ODOUR |
| **Flammability** | COMBUSTIBLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NON VOLATILE |
| **pH** | NOT AVAILABLE |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | NOT AVAILABLE |
| **Solubility (water)** | SOLUBLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | 351°C |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

### 9.2 Other information

| | |
|---|---|
| **% Volatiles** | 0 % |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated.

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| D-GLUCURONO-6-DEOXY-L-MANNO-D-GLUCAN, ACETATE, CALCIUM MAGNESIUM POTASSIUM SODIUM SALT | > 5000 mg/kg (rat) | -- | -- |

**Skin** Not classified as a skin irritant. Contact may result in mild irritation. The hydrophilic nature of the notified polymer in powder form can contribute to mechanical irritation and collection in the eyes when dust is generated.

**Eye** Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness. The hydrophilic nature of the notified polymer in powder form can contribute to mechanical irritation and collection on the skin when dust is generated.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** No evidence of mutagenic effects.

**Carcinogenicity** No evidence of carcinogenic effects.

**Reproductive** No relevant or reliable studies were identified.

**STOT - single exposure** Not classified as causing organ damage from single exposure. The hydrophilic nature of the notified polymer in powder form can contribute to mechanical irritation and collection in the airways when dust is generated.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** This product does not present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

The notified polymer is not toxic to fish (rainbow trout), aquatic invertebrates (daphnia magna) and marine invertebrates (acartia tonsa) under test conditions.

### 12.2 Persistence and degradability

Considered readily biodegradable.

### 12.3 Bioaccumulative potential

No experimental results provided. However, based on the molecular weight, water solubility and Kow value the notified polymer is not expected to bioaccumulate.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **MICROFLOW**

**Synonyms** MICRO FLOW

### 1.2 Uses and uses advised against

**Uses** DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**Physical Hazards**

Flammable Liquids: Category 3

**Health Hazards**

Skin Sensitisation: Category 1B
Serious Eye Damage / Eye Irritation: Category 2A
Specific Target Organ Toxicity (Single Exposure): Category 3 (Narcotic Effects)

**Environmental Hazards**

Not classified as an Environmental Hazard

### 2.2 GHS Label elements

**Signal word** **WARNING**

**Pictograms**

**Hazard statements**

| | |
|---|---|
| H226 | Flammable liquid and vapour. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |

**Prevention statements**

| | |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. No smoking. |
| P233 | Keep container tightly closed. |
| P240 | Ground/bond container and receiving equipment. |
| P241 | Use explosion-proof electrical/ventilating/lighting equipment. |
| P243 | Take precautionary measures against static discharge. |
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |
| P264 | Wash thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |

**Response statements**

| | |
|---|---|
| P303 + P361 + P353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P304 + P340 | IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P312 | Call a POISON CENTER or doctor/physician if you feel unwell. |
| P321 | Specific treatment is advised - see first aid instructions. |
| P333 + P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P337 + P313 | If eye irritation persists: Get medical advice/attention. |
| P363 | Wash contaminated clothing before reuse. |
| P370 + P378 | In case of fire: Use appropriate media for extinction. |

**Storage statements**

| | |
|---|---|
| P403 + P233 + P235 | Store in a well-ventilated place. Keep cool. Keep container tightly closed. |
| P405 | Store locked up. |

**Disposal statements**

| | |
|---|---|
| P501 | Dispose of contents/container in accordance with relevant regulations. |

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| SWEET ORANGE OIL | 68647-72-3 | 614-678-6 | 20 to 60% |
| ISOPROPYL ALCOHOL | 67-63-0 | 200-661-7 | 15 to 50% |

**Ingredient Notes** Terpenes (Sweet Orange Oil) may appear as CAS# 94266-47-4.

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

Irritating to the eyes. Vapours may cause drowsiness and dizziness.

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Dry agent, carbon dioxide or foam. Prevent contamination of drains and waterways.

### 5.2 Special hazards arising from the substance or mixture
Flammable. May evolve carbon oxides and hydrocarbons when heated to decomposition. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, heaters, naked lights, pilot lights, mobile phones, etc when handling. Earth containers when dispensing fluids.

### 5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
●3Y
●3 Alcohol Resistant Foam is the preferred firefighting medium but, if it is not available, normal foam can be used.
Y Risk of violent reaction or explosion. Wear full fire kit and breathing apparatus. Contain spill and run-off.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Large storage areas should be bunded and have appropriate ventilation systems.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Isopropyl alcohol | SWA [AUS] | 400 | 983 | 500 | 1230 |

**Biological limits**

| Ingredient | Determinant | Sampling Time | BEI |
|---|---|---|---|
| ISOPROPYL ALCOHOL | Acetone in urine | End of shift at end of workweek | 40 mg/L |

Reference: ACGIH Biological Exposure Indices

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended. Flammable/explosive vapours may accumulate in poorly ventilated areas. Vapours are heavier than air and may travel some distance to an ignition source and flash back. Maintain vapour levels below the recommended exposure standard.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear splash-proof goggles. |
| **Hands** | Wear nitrile or neoprene gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Type A (Organic vapour) respirator. If spraying, wear a Type A-Class P1 (Organic gases/vapours and Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | CLEAR TO OPAQUE MILKY WHITE LIQUID |
| **Odour** | CITRUS ODOUR |
| **Flammability** | FLAMMABLE |
| **Flash point** | 25°C |
| **Boiling point** | 154.4°C |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | NOT AVAILABLE |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 0.917 - 0.977 |
| **Solubility (water)** | SOLUBLE |
| **Vapour pressure** | 18 mm Hg @ 20°C |
| **Upper explosion limit** | 6.1 % |
| **Lower explosion limit** | 0.7 % |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

### 9.2 Other information

| | |
|---|---|
| **% Volatiles** | 55 - 75 % |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), metals, heat and ignition sources.

**10.6 Hazardous decomposition products**

May evolve carbon oxides and hydrocarbons when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** May be harmful if swallowed. Oral Toxicity: An oral LD50 in mice of 3600 mg/kg has been reported for isopropanol.

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| ISOPROPYL ALCOHOL | > 2000 mg/kg (rat) (NICNAS) | > 2000 mg/kg (rat) (NICNAS) | > 20 mg/L (rat) (NICNAS) |

**Skin** Not classified as a skin irritant. Prolonged or repeated contact may result in irritation, rash and dermatitis.

**Eye** Causes serious eye irritation. Contact may result in irritation, lacrimation, pain and redness.

**Sensitisation** May cause an allergic skin reaction. This product is not classified as a respiratory sensitiser.

**Mutagenicity** Insufficient data available to classify as a mutagen.

**Carcinogenicity** Isopropyl alcohol is not classifiable as to its carcinogenicity to humans (IARC Group 3).

**Reproductive** Not classified as a reproductive toxin. Insufficient data available to classify as a reproductive toxin.

**STOT - single exposure** Over exposure may result in irritation of the nose and throat, coughing and headache. High level exposure may result in nausea, dizziness and drowsiness.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure. However, repeated exposure to some solvents have been reported to cause adverse effects to the central nervous system (CNS), liver and kidney.

**Aspiration** Not classified as causing aspiration.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Not expected to be dangerous to the aquatic environment.

### 12.2 Persistence and degradability

This product is readily biodegradable.

### 12.3 Bioaccumulative potential

This product is not expected to bioaccumulate.

### 12.4 Mobility in soil

Relatively volatile and would therefore readily evaporate from dry soil and surfaces.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** For small amounts, absorb with sand, vermiculite or similar and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information if disposing of large quantities (if required). Prevent contamination of drains and waterways as aquatic life may be threatened and environmental damage may result.

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | 1993 | 1993 | 1993 |
| **14.2 Proper Shipping Name** | FLAMMABLE LIQUID, N.O.S. (Contains isopropyl alcohol) | FLAMMABLE LIQUID, N.O.S. (Contains isopropyl alcohol) | FLAMMABLE LIQUID, N.O.S. (Contains isopropyl alcohol) |
| **14.3 Transport hazard class** | 3 | 3 | 3 |
| **14.4 Packing Group** | III | III | III |

**14.5 Environmental hazards**

Not a Marine Pollutant

**14.6 Special precautions for user**

**Hazchem code** ●3Y

**GTEPG** 3A1

**EmS** F-E, S-E

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

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**[ End of SDS ]**

# SAFETY DATA SHEET

## INCORR

**Issue Date** 28-Sep-2016 **Revision Date** 04-Jan-2018 **Version** 2
EN

## Section 1: IDENTIFICATION: PRODUCT INDENTIFIER AND CHEMICAL IDENTITY

**Product identifier**

**Product Name** INCORR

**Product Code** NDF00204

**Other means of identification**

**Pure substance/mixture** Mixture

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Corrosion inhibitor

**Uses advised against** No information available

**Details of manufacturer or importer**

**Supplier**
Newpark Drilling Fluids (Australia) LTD
11 Alacrity Place
Henderson, WA, 6166
Australia

For further information, please contact

**Contact Point** Telephone: +61 8 9410 8200
Fax: +61 8 9410 8299
Website: www.newpark.com

**Emergency telephone number**

Emergency telephone number 1800 127 406 (Australia); +64 4 917 9888 (International)

## Section 2: HAZARD(S) IDENTIFICATION

**GHS - Classification**

| | |
|---|---|
| **Serious eye damage/eye irritation** | Category 2 - (H319) |

**Label elements**

**Signal word**
Warning

**Hazard statements**
H319 - Causes serious eye irritation

**Precautionary Statements - Prevention**
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

**Other hazards**
**General Hazards**
No information available

## Section 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8

**Substance**

Not applicable

**Mixture**

| Chemical Name | CAS No | Weight-% |
|---|---|---|
| Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine derivatives residues | 68909-77-3 | 10-30 |
| Poly(oxy-1,2-ethanediyl), alpha-hydro-omega-hydroxy-, mono(2-(4,5-dihydro-2-nortall-oil alkyl-1H-imidazol-1-yl)ethyl) ethers | 68909-09-1 | 5-10 |
| Acetic acid | 64-19-7 | 1-5 |
| Non-hazardous ingredients | Proprietary | Balance |

## Section 4: FIRST AID MEASURES

**Description of first aid measures**

**Emergency telephone number** Poisons Information Center, Australia: 13 11 26
Poisons Information Center, New Zealand: 0800 764 766

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## Section 5: FIREFIGHTING MEASURES

**Suitable Extinguishing Media**

**Suitable extinguishing media**
Carbon dioxide (CO2). Water spray (fog).

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Do not allow run-off from fire-fighting to enter drains or water courses.

**Hazardous combustion products** Carbon oxides. Nitrogen oxides (NOx).

**Special protective actions for fire-fighters**

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**Hazchem code** Not Listed.

## Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Precautions to prevent secondary hazards**

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## Section 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

**Precautions for safe handling**

**Advice on safe handling** Wash contaminated clothing before reuse. Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible materials** Strong oxidizing agents

## Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Control parameters**

**Exposure Limits** .

| Chemical Name | Australia |
|---|---|
| Acetic acid<br>64-19-7 | 10 ppm<br>25 mg/m$^3$<br>15 ppm STEL<br>37 mg/m$^3$ STEL |

**Biological occupational exposure limits** Not applicable

**Appropriate engineering controls**

**Engineering controls** Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear suitable protective clothing.

**Respiratory protection** In case of inadequate ventilation wear respiratory protection.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical state** | Liquid | | |
| **Appearance** | liquid | **Odor** | Slight. |
| **Color** | No information available | **Odor threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 7 - 9 | |
| **Melting point / freezing point** | | No information available |
| **Boiling point / boiling range** | 100 °C | |
| **Flash point** | > 100 °C | |
| **Evaporation rate** | | No information available |
| **Flammability (solid, gas)** | | Not applicable |
| **Flammability Limit in Air** | | No information available |
| **Upper flammability limit:** | | No data available |
| **Lower flammability limit:** | | No data available |
| **Vapor pressure** | | No data available |
| **Vapor density** | | No data available |
| **Relative density** | 0.95-1.05 | |
| **Water solubility** | Soluble in water | |
| **Solubility(ies)** | | No information available |
| **Partition coefficient** | | No information available |
| **Autoignition temperature** | | No information available |
| **Decomposition temperature** | | No information available |
| **Kinematic viscosity** | | |
| **Dynamic viscosity** | | |

**Other Information**

| | |
|---|---|
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC Content (%)** | No information available |
| **Density** | No information available |
| **Bulk density** | No information available |
| **Particle Size** | No information available |
| **Particle Size Distribution** | No information available |

## Section 10: STABILITY AND REACTIVITY

**Reactivity**

**Reactivity** No information available.

**Chemical stability**

**Stability** Stable under normal conditions.

**Explosion data**
**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** None.

**Possibility of Hazardous Reactions**

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid**

**Conditions to avoid** None known based on information supplied.

**Incompatible materials**

**Incompatible materials** Strong oxidizing agents.

**Hazardous Decomposition Products**

**Hazardous Decomposition Products** None known based on information supplied.

## Section 11: TOXICOLOGICAL INFORMATION

**Acute toxicity**

**Information on likely routes of exposure**

**Product Information** .

**Inhalation** Specific test data for the substance or mixture is not available.

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available

**Symptoms** No information available.

**Numerical measures of toxicity - Product Information**

**The following values are calculated based on chapter 3.1 of the GHS document**
**ATEmix (oral)** 7,023.00 mg/kg

**ATEmix (dermal)** 26,500.00 mg/kg
**ATEmix (inhalation-dust/mist)** 285.00 mg/l

**Unknown acute toxicity** 28 % of the mixture consists of ingredient(s) of unknown toxicity
5 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
25 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
28 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
28 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
25 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Component Information**

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine derivatives residues | = 1500 mg/kg ( Rat ) | - | - |
| Acetic acid | = 3310 mg/kg ( Rat ) | = 1060 mg/kg ( Rabbit ) | = 11.4 mg/L ( Rat ) 4 h |

*See section 16 for terms and abbreviations*

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** Irritating to skin.

**Serious eye damage/eye irritation** Risk of serious damage to eyes.

**Respiratory or skin sensitization** May cause an allergic skin reaction.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Unknown aquatic toxicity** 5 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

| Chemical Name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---|---|---|---|---|
| Acetic acid | - | 75: 96 h Lepomis macrochirus mg/L LC50 static 79: 96 h Pimephales promelas mg/L LC50 static | EC50 = 8.8 mg/L 15 min EC50 = 8.8 mg/L 25 min EC50 = 8.8 mg/L 5 min | 47: 24 h Daphnia magna mg/L EC50 65: 48 h Daphnia magna mg/L EC50 Static |

**Persistence and degradability**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** .

**Component Information**

| Chemical Name | Partition coefficient |
|---|---|
| Acetic acid | -0.31 |

**Mobility**

**Mobility in soil** No information available.

**Mobility** No information available.

**Other adverse effects**

**Other adverse effects** No information available.

## Section 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## Section 14: TRANSPORT INFORMATION

**ADG** Not regulated

**IATA** Not regulated

**IMDG** Not regulated

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
No information available

## Section 15: REGULATORY INFORMATION

**Regulatory information**

**National regulations**

**Australia**
See section 8 for national exposure control parameters

**Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)**
No poisons schedule number allocated

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Complies |

| | |
|---|---|
| **ENCS** | Does not comply |
| **IECSC** | Does not comply |
| **KECL** | Does not comply |
| **PICCS** | Does not comply |
| **AICS** | Does not comply |
| **NZIoC** | Does not comply |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals

**International Regulations**

**Ozone-depleting substances (ODS)** Not applicable

**Persistent Organic Pollutants** Not applicable

**Export Notification requirements** Not applicable

## Section 16: ANY OTHER RELEVANT INFORMATION

**Issue Date** 28-Sep-2016

**Revision Date** 04-Jan-2018

**Revision Note**
No information available.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

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**End of Safety Data Sheet**

NEWPARK DRILLING FLUIDS

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** **POLYDRILL**

**Synonyms** POLY DRILL

### 1.2 Uses and uses advised against

**Uses** ADDITIVE ● DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** www.newpark.com

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|---|---|---|---|
| SULPHONATED ORGANIC POLYMER | - | - | 100% |

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form.

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed
Adverse effects not expected from this product under normal conditions of use.

### 4.3 Immediate medical attention and special treatment needed
Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media
Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains or waterways.

### 5.2 Special hazards arising from the substance or mixture
Combustible. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Finely divided dust may form explosive mixtures with air.

### 5.3 Advice for firefighters
Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code
None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

### 6.2 Environmental precautions
Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up
Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

### 6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled and tightly closed when not in use.

### 7.3 Specific end uses
No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters
**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear dust-proof goggles. |
| **Hands** | Wear PVC or rubber gloves. |
| **Body** | When using large quantities or where heavy contamination is likely, wear coveralls. |
| **Respiratory** | Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | RED BROWN POWDER |
| **Odour** | CHARACTERISTIC ODOUR |
| **Flammability** | COMBUSTIBLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | > 370°C |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT AVAILABLE |
| **pH** | 7 to 9 (150 g/L) |
| **Vapour density** | NOT AVAILABLE |
| **Specific gravity** | 1.8 |
| **Solubility (water)** | 320 g/L |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Partition coefficient** | NOT AVAILABLE |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Explosive properties** | NOT AVAILABLE |
| **Oxidising properties** | NOT AVAILABLE |
| **Odour threshold** | NOT AVAILABLE |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated.

**Information available for the ingredients:**

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| SULPHONATED ORGANIC POLYMER | > 5000 mg/kg (rat) | -- | -- |

**Skin** Not classified as a skin irritant. Contact may result in mild irritation.

**Eye** Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** No evidence of mutagenic effects.

**Carcinogenicity** No evidence of carcinogenic effects.

**Reproductive** No relevant or reliable studies were identified.

**STOT - single exposure** Not classified as causing organ damage from single exposure.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** This product does not present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

No information provided.

### 12.2 Persistence and degradability

This product is not readily biodegradable.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **14.1 UN Number** | None allocated. | None allocated. | None allocated. |
| **14.2 Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **14.3 Transport hazard class** | None allocated. | None allocated. | None allocated. |
| **14.4 Packing Group** | None allocated. | None allocated. | None allocated. |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**Inventory listings** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**[ End of SDS ]**

# SAFETY DATA SHEET

## New100N®

**Issue Date** 16-Jul-2018 **Revision date** 12-Jun-2023 **Version** 1
EN

## Section 1: IDENTIFICATION: PRODUCT INDENTIFIER AND CHEMICAL IDENTITY

1

**Product identifier**

**Product Name** New100N®

**Product Code** NDF00014

**Other means of identification**

**Pure substance/mixture** Mixture

**Recommended use of the chemical and restrictions on use**

**Recommended Use** water activity control agent

**Uses advised against** No information available

**Details of manufacturer or importer**

**Supplier**
Newpark Drilling Fluids (Australia) LTD
11 Alacrity Place
Henderson, WA, 6166
Australia

For further information, please contact

**Contact Point** Telephone: +61 8 9410 8200
Fax: +61 8 9410 8299
Website: www.newpark.com

**Emergency telephone number**

Emergency telephone number +(61)-290372994 (Australia); +(64)-98010034 (New Zealand); 1-800-424-9300 (International Number);

## Section 2: HAZARD(S) IDENTIFICATION

**GHS - Classification**

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Label elements**

**Hazard statements**
Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Other hazards which do not result in classification**

**General Hazards**

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII

## Section 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8

**Substance**

Not applicable

**Mixture**

| Chemical name | CAS No | Weight-% |
|---|---|---|
| Non-hazardous ingredients | Proprietary | 100 |

## Section 4: FIRST AID MEASURES

**Description of first aid measures**

**Emergency telephone number** Poisons Information Center, Australia: 13 11 26
Poisons Information Center, New Zealand: 0800 764 766

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## Section 5: FIREFIGHTING MEASURES

**Suitable Extinguishing Media**

**Suitable extinguishing media** In case of fire, use water fog, dry chemical, CO2 or "alcohol resistant" foam.

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Do not allow run-off from fire-fighting to enter drains or water courses.

**Hazardous combustion products** Carbon oxides.

**Special protective actions for fire-fighters**

| | |
|---|---|
| **Special protective equipment for fire-fighters** | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |
| **Hazchem code** | Not Listed. |

## Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | Ensure adequate ventilation. |
| **For emergency responders** | Use personal protection recommended in Section 8. |

**Environmental precautions**

| | |
|---|---|
| **Environmental precautions** | Do not flush into surface water or sanitary sewer system. Prevent product from entering drains. See Section 12 for additional Ecological Information. |

**Methods and material for containment and cleaning up**

| | |
|---|---|
| **Methods for containment** | Prevent further leakage or spillage if safe to do so. |
| **Methods for cleaning up** | Pick up and transfer to properly labeled containers. |

**Precautions to prevent secondary hazards**

| | |
|---|---|
| **Prevention of secondary hazards** | Clean contaminated objects and areas thoroughly observing environmental regulations. |

## Section 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

**Precautions for safe handling**

| | |
|---|---|
| **Advice on safe handling** | Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Wash contaminated clothing before reuse. |
| **General hygiene considerations** | Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. |

**Conditions for safe storage, including any incompatibilities**

| | |
|---|---|
| **Storage Conditions** | Keep containers tightly closed in a dry, cool and well-ventilated place. |
| **Incompatible materials** | Strong oxidizing agents |

## Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Control parameters**

| | |
|---|---|
| **Exposure Limits** | This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. |

| | |
|---|---|
| **Biological occupational exposure limits** | Not applicable |

**Appropriate engineering controls**

| | |
|---|---|
| **Engineering controls** | Showers<br>Eyewash stations |

Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear suitable protective clothing.

**Respiratory protection** In case of inadequate ventilation wear respiratory protection.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical state** | Liquid | | |
| **Appearance** | viscous | **Odor** | No information available. |
| **Color** | dark brown | **Odor threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 7.5 - 8.5 | 10% solution |
| **Melting point / freezing point** | | No information available |
| **Boiling point / boiling range** | | No information available |
| **Flash point** | > 177 °C | |
| **Evaporation rate** | | No information available |
| **Flammability (solid, gas)** | | Not applicable |
| **Flammability Limit in Air** | | No information available |
| **Upper flammability limit:** | | No data available |
| **Lower flammability limit:** | | No data available |
| **Vapor pressure** | | No data available |
| **Vapor density** | | No data available |
| **Relative density** | 1.23-1.27 | |
| **Water solubility** | Soluble in water | |
| **Solubility(ies)** | | No information available |
| **Partition coefficient** | | No information available |
| **Autoignition temperature** | | No information available |
| **Hyphen** | | No information available |
| **Kinematic viscosity** | | |
| **Dynamic viscosity** | | |

**Other information**

| | |
|---|---|
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC content** | No information available |
| **Liquid Density** | No information available |
| **Bulk density** | No information available |
| **Particle Size** | No information available |
| **Particle Size Distribution** | No information available |

## Section 10: STABILITY AND REACTIVITY

**Reactivity**

**Reactivity** No information available.

**Chemical stability**

**Stability** Stable under normal conditions.

**Explosion data**
**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** None.

**Possibility of hazardous reactions**

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid**

**Conditions to avoid** None known based on information supplied.

**Incompatible materials**

**Incompatible materials** Strong oxidizing agents.

**Hazardous decomposition products**

**Hazardous Decomposition Products** Carbon oxides.

## Section 11: TOXICOLOGICAL INFORMATION

**Acute toxicity**

**Information on likely routes of exposure**

**Product Information** .

**Inhalation** Specific test data for the substance or mixture is not available.

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available

**Symptoms** No information available.

**Numerical measures of toxicity - Product Information**

**Unknown acute toxicity** 88 % of the mixture consists of ingredient(s) of unknown toxicity
88 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
88 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
88 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
88 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
88 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

*See section 16 for terms and abbreviations*

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

| | |
|---|---|
| **Carcinogenicity** | No information available. |
| **Reproductive toxicity** | No information available. |
| **STOT - single exposure** | No information available. |
| **STOT - repeated exposure** | No information available. |
| **Aspiration hazard** | No information available. |

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

**Ecotoxicity**

| | |
|---|---|
| **Unknown aquatic toxicity** | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. |

**Persistence and degradability**

| | |
|---|---|
| **Persistence and degradability** | Inherently biodegradable. |

**Bioaccumulative potential**

| | |
|---|---|
| **Bioaccumulation** | MATERIAL DOES NOT BIOACCUMULATE. |

**Mobility**

| | |
|---|---|
| **Mobility in soil** | No information available. |
| **Mobility** | No information available. |

**Other adverse effects**

| | |
|---|---|
| **Other adverse effects** | No information available. |

## Section 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations. |
| **Contaminated packaging** | Do not reuse empty containers. |

## Section 14: TRANSPORT INFORMATION

| | |
|---|---|
| **ADG** | Not regulated |
| **IATA** | Not Regulated |
| **IMDG** | Not Regulated |

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

No information available

## Section 15: REGULATORY INFORMATION

**Regulatory information**

**National regulations**

**Australia**
See section 8 for national exposure control parameters

**Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)**
No poisons schedule number allocated

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Does not comply |
| **ENCS** | Complies |
| **IECSC** | Complies |
| **KECL** | Complies |
| **PICCS** | Complies |
| **AICS** | Complies |
| **NZIoC** | Complies |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**Brunei Poison List** Not applicable.

## Section 16: ANY OTHER RELEVANT INFORMATION

**Issue Date** 16-Jul-2018

**Revision date** 12-Jun-2023

**Revision Note**
No information available.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

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**End of Safety Data Sheet**

## 7. SDS - SCHLUMBERGER

**SDS no.** D047
**Version** 3
**Revision date** 03-Mar-2021
**Supersedes Date:** 21-Feb-2016

# Safety Data Sheet
## Antifoam Agent D47

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Antifoam Agent D47
**Product code** D047

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Antifoam in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Oilfield Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
256 St. Georges Terrace, Perth WA 6000
+47 5157 7424

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**Contains** No hazardous components
**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

### Australian statement of hazardous/dangerous nature
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

This product does not contain any hazardous ingredients, or ingredients with national workplace exposure limits.

**3.2 Mixtures**

Not applicable

## 4. First Aid Measures

### 4.1 First aid measures

| | |
|---|---|
| **Inhalation** | If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult. |
| **Ingestion** | Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur. |
| **Skin contact** | Wash skin thoroughly with soap and water. Seek medical attention if irritation occurs. |
| **Eye Contact** | Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues. |

**4.2. Most important symptoms and effects, both acute and delayed**

| | |
|---|---|
| **General advice** | The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible. |
| **Symptoms** | |
| **Inhalation** | Please see Section 11. Toxicological Information for further information. |
| **Ingestion** | Please see Section 11. Toxicological Information for further information. |
| **Skin contact** | Please see Section 11. Toxicological Information for further information. |
| **Eye contact** | Please see Section 11. Toxicological Information for further information. |

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
Do not use a solid water stream as it may scatter and spread fire.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx), Harmful organic chemical fumes.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Avoid excessive heat for prolonged periods of time. Avoid contact with: Strong acids Strong bases Strong oxidizing agents |
| **Storage class** | Chemical storage. |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

| | |
|---|---|
| **Exposure limits** | The product does not contain any hazardous materials with occupational exposure limits established. |

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Eye protection must conform to standard EN 166 Tightly fitting safety goggles Safety glasses with side-shields |
| **Hand protection** | Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Repeated or prolonged contact Use protective gloves made of: Butyl Gloves-Neoprene, Nitrile Unless Specified Be aware that liquid may penetrate the gloves. Frequent change is advisable. |
| **Respiratory protection** | No personal respiratory protective equipment normally required In case of insufficient ventilation wear suitable respiratory equipment Respirator with combination filter for vapour/particulate (EN 141) Type A/P2 At work in confined or poorly ventilated spaces, |

respiratory protection with air supply must be used.

**Skin and body protection** Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls**

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Viscous |
| **Odor** | Odorless |
| **Color** | Colorless |
| **Odor threshold** | Not applicable |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | No data available | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | < -35 °C / -31 °F | |
| **Boiling point/range** | No information available | |
| **Flash point** | 229 °C / 444.2 °F | ASTM D-93 |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability (solid, gas)** | Not applicable | |
| **Flammability Limit in Air** | | |
| **Upper flammability limit** | Not applicable | |
| **Lower flammability limit** | Not applicable | |
| **Vapor pressure** | Not applicable | |
| **Vapor density** | No information available | |
| **Specific gravity** | 1 | |
| **Bulk density** | No information available | |
| **Relative density** | 1 | @ 21.1°C. |
| **Water solubility** | Insoluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | 414 - 496 cst | |
| **Dynamic viscosity** | No information available | |
| **log Pow** | Not determined | |

| | |
|---|---|
| **Explosive properties** | Not applicable |
| **Oxidizing properties** | None known. |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | <0°C/32°F |
| **Molecular weight** | No information available |

| | |
|---|---|
| **VOC content(%)** | None |
| **Density** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid excessive heat for prolonged periods of time.

### 10.5 Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

**Acute toxicity**

| | |
|---|---|
| **Inhalation** | Inhalation of vapors in high concentration may cause irritation of respiratory system. |
| **Eye contact** | May cause slight irritation. |
| **Skin contact** | Prolonged contact may cause redness and irritation. |
| **Ingestion** | Ingestion may cause stomach discomfort. |
| **Unknown acute toxicity** | Not applicable. |

| | |
|---|---|
| **Sensitization** | This product does not contain any components suspected to be sensitizing. |
| **Mutagenic effects** | This product does not contain any known or suspected mutagens. |
| **Carcinogenicity** | This product does not contain any known or suspected carcinogens. |

| | |
|---|---|
| **Reproductive toxicity** | This product does not contain any known or suspected reproductive hazards. |
| **Routes of Exposure** | None known. |
| **Routes of entry** | No route of entry noted. |
| **Specific target organ toxicity - Single exposure** | Not classified |
| **Specific target organ toxicity - Repeated exposure** | Not classified. |
| **Aspiration hazard** | Not applicable. |
| **Other information** | Key literature references and sources for data. See Section 16 for more information. |

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

Readily biodegradable.

### 12.3 Bioaccumulative potential

Bioaccumulation is unlikely.

### 12.4 Mobility

**Mobility**
The product is insoluble and floats on water.

**Mobility in soil**
No information available.

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

### 12.6 Other adverse effects.

None known.

### 12.7 Other information

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. |
| **Contaminated packaging** | Empty containers should be taken for local recycling, recovery or waste disposal. |

## 14. Transport information

### 14.1. UN number

Not regulated

### 14.2. UN proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

### 14.3 Hazard class(es)

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

### 14.4 Packing group

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

### 14.5 Environmental hazard

No

### 14.6 Special precautions

Not applicable

### 14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

**New Zealand Hazard Classification** Not classified

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Poh Yue Cheong |
| **Supersedes Date:** | 21-Feb-2016 |
| **Revision date** | 03-Mar-2021 |
| **Version** | 3 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1 |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | B |

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**SDS no.** D175A
**Version** 5
**Revision date** 07-Feb-2022
**Supersedes Date:** 29-Apr-2020

# Safety Data Sheet
## Antifoam Agent D175A

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Antifoam Agent D175A
**Product code** D175A

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards**

| | |
|---|---|
| Skin sensitization | Category 1 |
| Carcinogenicity | Category 1B |

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
DANGER

**Hazard Statements**
H317 - May cause an allergic skin reaction
H350 - May cause cancer

**Precautionary statements**
P201 - Obtain special instructions before use
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves and eye/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Supplementary precautionary statements**
P202 - Do not handle until all safety precautions have been read and understood
P272 - Contaminated work clothing should not be allowed out of the workplace
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P362 + P364 - Take off contaminated clothing and wash it before reuse

**Contains**
Silicon Dioxide

3,3''-methylenebis[5-methyloxazolidine]

### 2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

### Australian statement of hazardous/dangerous nature
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Silicon Dioxide | 231-545-4 | 7631-86-9 | 1-5 |
| 3,3''-methylenebis[5-methyloxazolidine] | 266-235-8 | 66204-44-2 | <1 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification.

## 4. First Aid Measures

### 4.1 First aid measures

| | |
|---|---|
| **Inhalation** | If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult. |
| **Ingestion** | Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur. |
| **Skin contact** | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek medical attention if irritation occurs. |
| **Eye Contact** | Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues. |

### 4.2. Most important symptoms and effects, both acute and delayed

| | |
|---|---|
| **General advice** | The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible. |
| **Symptoms** | |
| **Inhalation** | Please see Section 11. Toxicological Information for further information. |
| **Ingestion** | Please see Section 11. Toxicological Information for further information. |
| **Skin contact** | Please see Section 11. Toxicological Information for further information. |
| **Eye contact** | Please see Section 11. Toxicological Information for further information. |

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water spray, dry chemical, carbon dioxide ($CO_2$), or foam.

**Extinguishing media which must not be used for safety reasons**
Do not use water jet.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx), Nitrogen oxides (NOx), Silicon oxide.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8. Solutions extremely slippery when spilled.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Avoid spills and splashing during use. Persons susceptible to allergic reactions should not handle this product.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Keep at a temperature not exceeding 25 °C Avoid contact with: Strong oxidizing agents UV or Ionising Radiation. Steel |
| **Storage class** | Chemical storage. |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

| | |
|---|---|
| **Exposure limits** | Because this product is a liquid, the dust-related Workplace Exposure Limits for the components do not apply. |

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Silicon Dioxide | Not determined | 2mg/m³TWArespirable dust<br>10mg/m³TWAinhalable | Not determined |
| 3,3''-methylenebis[5-methyloxazolidine] | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Silicon Dioxide | 10 mg/m³ TWA | Not determined | Not determined |
| 3,3''-methylenebis[5-methyloxazolidine] | Not determined | Not determined | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Silicon Dioxide | 1 mg/m³ MAC | 6.0 mg/m³ TWA | Not determined |
| 3,3''-methylenebis[5-methyloxazolidine] | Not determined | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Silicon Dioxide | Not determined | Not determined | 1 mg/m³ TWA<br>2 mg/m³ TWA<br>3 mg/m³ MAC<br>6 mg/m³ MAC<br>Fibrogenic substance in the form of condensation aerosol, containing >60% Silicon dioxide;limit is for total mass of aerosols 1151<br>Fibrogenic substance in the form of condensation aerosol, containing 10-60% Silicon dioxide;limit is for total mass of aerosols 1152<br>Fibrogenic substance also vitreous, in the form of disintegration aerosol;limit is for total mass of aerosols 1153 |
| 3,3''-methylenebis[5-methyloxazolidine] | Not determined | Not determined | Not determined |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Silicon Dioxide | Not determined | Not determined | Not determined |
| 3,3''-methylenebis[5-methyloxazolidine] | Not determined | Not determined | Not determined |

**Notes**
No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

**Eye protection**
Use eye protection according to EN 166, designed to protect against liquid splashes Safety glasses with side-shields Tightly fitting safety goggles

**Hand protection**
Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training
Impervious gloves made of: Neoprene Nitrile Butyl Rubber
Break through time >480 minutes
Glove thickness >0.4 mm
Be aware that liquid may penetrate the gloves. Frequent change is advisable.

**Respiratory protection**
In case of insufficient ventilation wear suitable respiratory equipment Respirator with

| | |
|---|---|
| | combination filter for vapor/particulate Type A/P2 At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Aqueous solution |
| **Odor** | Slight |
| **Color** | Milky white |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | No information available | |
| **pH @ dilution** | 7 | concentrated solution |
| **Melting / freezing point** | ~ 0 °C / 32 °F | |
| **Boiling point/range** | 100 °C / 212 °F | |
| **Flash point** | > 100 °C / > 212 °F | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | ~ 1 | @ 25 °C |
| **Bulk density** | No information available | |
| **Water solubility** | Dispersible | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | ~ 100 mPa s | @ 25 °C |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | No information available | |
| **Explosive properties** | Not applicable | |
| **Oxidizing properties** | None known. | |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |

**Molecular weight** No information available
**VOC content(%)** None

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid heat, flames and other sources of ignition.

### 10.5 Incompatible materials

Strong oxidizing agents. UV or Ionising Radiation. Steel.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** Inhalation of vapors in high concentration may cause irritation of respiratory system.

**Eye contact** May cause slight irritation.

**Skin contact** May cause an allergic skin reaction.

**Ingestion** Ingestion may cause stomach discomfort.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Silicon Dioxide | = 7900 mg/kg ( Rat ) | > 5000 mg/kg ( Rabbit ) | > 58.8 mg/L ( Rat ) 4 h |
| 3,3"-methylenebis[5-methyloxazolidine] | 900 mg/kg, Rat | 2 mg/l, 4 h, Rat, dust/mist, OECD Test Guideline 436 | 1207 - 1620 mg/kg, Rat, OECD Test Guideline 402 |

**Sensitization** May cause allergic skin reaction.

**Mutagenic effects** Contains an known or suspected mutagen.

**Carcinogenicity** Contains a known or suspected carcinogen.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Skin contact. Inhalation. Ingestion. Eye contact.

**Routes of entry** Skin contact. Inhalation.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Silicon Dioxide | = 5000 mg/L LC50 Brachydanio rerio 96 h | = 440 mg/L EC50 Pseudokirchneriella subcapitata 72 h | = 7600 mg/L EC50 Ceriodaphnia dubia 48 h |
| 3,3''-methylenebis[5-methyloxazolidine] | 57.7 mg/l LC 50 Brachidanio rerio (Zebra Fish) 96 h | 5,7 mg/l, 72 h | 37.9 mg/l EC50 Daphnia Magna (Big water flea) 48 h |

### 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Silicon Dioxide | Not Applicable - Inorganic chemical. |
| 3,3''-methylenebis[5-methyloxazolidine] | Readily biodegradable OECD 306 |

### 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Silicon Dioxide | Not likely to bioaccumulate |
| 3,3''-methylenebis[5-methyloxazolidine] | Not likely to bioaccumulate log Pow ca. -0,3 (25 °C), Directive 92/69/EEC, A.8 |

### 12.4 Mobility

**Mobility**
Dispersible in water. See component information below.

| Chemical Name | Mobility |
|---|---|
| 3,3''-methylenebis[5-methyloxazolidine] | Soluble in water |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| 3,3''-methylenebis[5-methyloxazolidine] | Distribution among environmental compartments |

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

### 14.1. UN number
Not regulated

### 14.2. UN proper shipping name
The product is not covered by international regulation on the transport of dangerous goods

### 14.3 Hazard class(es)
**ADR/RID/ADN/ADG Hazard class** Not regulated
**IMDG/ANTAQ Hazard class** Not regulated
**ICAO/ANAC Hazard class/division** Not regulated

### 14.4 Packing group
**ADR/RID/ADN/ADG Packing group** Not regulated
**IMDG/ANTAQ Packing group** Not regulated
**ICAO/ANAC Packing group** Not regulated

### 14.5 Environmental hazard
No

### 14.6 Special precautions

Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

| | |
|---|---|
| **New Zealand Hazard Classification** | Additives, Process Chemicals and Raw Materials (Carcinogenic) Group Standard 2020 |
| **HSNO approval no.** | HSR002512 |
| **Group number** | 6.5B, 6.7A |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Does not comply |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Poh Yue Cheong |
| **Supersedes Date:** | 29-Apr-2020 |
| **Revision date** | 07-Feb-2022 |
| **Version** | 5 |

| | |
|---|---|
| **This SDS has been revised in the following section(s)** | All sections There have been changes with regard to classification. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 2 * |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | X |

**Disclaimer**
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**SDS no.** D153
**Version** 4
**Revision date** 23-Feb-2022
**Supersedes Date:** 28-Mar-2018

# Safety Data Sheet
## Anti-Settling Agent D153

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Anti-Settling Agent D153
**Product code** D153
**Country Limitations** Japan : Contact GRC-C for further information.

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards**

| | |
|---|---|
| Specific target organ toxicity - Repeated exposure | Category 2 |

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
WARNING

**Hazard Statements**
H373 - May cause damage to organs through prolonged or repeated exposure

**Precautionary statements**
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P314 - Get medical advice/attention if you feel unwell
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

_

**Contains**
Quartz, Crystalline silica

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Quartz, Crystalline silica | 238-878-4 | 14808-60-7 | 60 - 100 |
| Respirable Crystalline Silica (Quartz) | 238-878-4 | 14808-60-7 | <10 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification.
IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash skin thoroughly with soap and water. Get medical attention if irritation persists.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

### 4.2. Most important symptoms and effects, both acute and delayed

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
React with hydrofluoric acid (HF) forming toxic gas (SiF4).

**Hazardous combustion products**
Thermal decomposition can lead to release of irritating gases and vapors

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. See also section 8. Material becomes slippery when wet. Use caution if wet.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Cover with plastic sheet to prevent spreading. Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**
Avoid dust formation. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Material becomes slippery when wet. Use caution if wet.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Avoid heat, flames and other sources of ignition. Protect from moisture Avoid contact with: Hydrofluoric acid (HF) Strong oxidizing agents

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Quartz, Crystalline silica | 0.1 mg/m³ TWA | 0.05mg/m³TWArespirable dust | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Quartz, Crystalline silica | Not determined | 0.025 mg/m³ TWA | 0.03 mg/m³ OEL |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Quartz, Crystalline silica | 1 mg/m³ MAC | 0.1 mg/m³ TWA | 0.05 mg/m³ TWA<br>Confirmed carcinogen |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Quartz, Crystalline silica | 0.1 mg/m³ TWA | Not determined | 1 mg/m³ TWA<br>3 mg/m³ MAC |

| | | | |
|---|---|---|---|
| | | | Fibrogenic substance glass;in the form of disintegration aerosol;limit is for total mass of aerosols 1153 Fibrogenic substance containing >70% Silicon dioxide in dust;limit is for total mass of aerosols 1154 |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Quartz, Crystalline silica | 0.025 mg/m³ TWA | Not determined | Not determined |

**Notes**
No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Provide appropriate exhaust ventilation at places where dust is formed

**Personal protective equipment**

**Eye protection** Use eye protection according to EN 166, designed to protect against dusts Safety glasses with side-shields Tightly fitting safety goggles

**Hand protection** Wear gloves according to EN 374 to protect against skin effects from powders Impervious gloves made of: Neoprene Nitrile
Break through time >480 minutes
Glove thickness >0.4 mm
Frequent change is advisable

**Respiratory protection** In case of inadequate ventilation wear respiratory protection Suitable mask with particle filter P3 (European Norm 143) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection** Wear appropriate personal protective clothing to prevent skin contact Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls**

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

**Physical state** Solid
**Appearance** Powder
**Odor** Odorless
**Color** White

| Property | Values | Remarks |
|---|---|---|
| **pH** | No information available | |
| **pH @ dilution** | 6 - 9 | @ 20g/l |
| **Melting / freezing point** | No information available | |
| **Boiling point/range** | Not applicable | |
| **Flash point** | Not applicable | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | 2.65 | |
| **Bulk density** | 1100 - 1600 kg/m$^3$ | |
| **Water solubility** | Insoluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | No information available | |
| **Explosive properties** | Not applicable | |
| **Oxidizing properties** | None known. | |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

React with hydrofluoric acid (HF) forming toxic gas (SiF4).

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Protect from moisture. Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition.

**10.5 Incompatible materials**

Hydrofluoric acid (HF). Strong oxidizing agents.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. May cause damage to organs through prolonged or repeated exposure. Repeated or prolonged inhalation of crystalline silica dust can cause delayed lung injury, and other diseases, including silicosis and lung cancer.

**Eye contact** Dust may cause mechanical irritation.

**Skin contact** Repeated exposure may cause skin dryness or cracking.

**Ingestion** Ingestion may cause stomach discomfort. May cause additional affects as listed under "Inhalation".

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Quartz, Crystalline silica | No data available | No data available | No data available |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** Contains a known or suspected carcinogen. Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation. Skin contact. Eye contact.

**Routes of entry** Inhalation.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Category 2.

**Target organ effects** Respiratory system. Lungs.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Quartz, Crystalline silica | No information available | No information available | No information available |

### 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Quartz, Crystalline silica | Inorganic compound |

### 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Quartz, Crystalline silica | Product/Substance is inorganic |

### 12.4 Mobility

**Mobility**
The product is insoluble and sinks in water. See component information below.

| Chemical Name | Mobility |
|---|---|
| Quartz, Crystalline silica | Insoluble in water |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| Quartz, Crystalline silica | Not expected to adsorb on soil |

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused** Dispose of in accordance with local regulations.

**products**

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Does not comply |
| **Japan (ENCS)** | Complies - Volume restriction. |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam |
| **Supersedes Date:** | 28-Mar-2018 |
| **Revision date** | 23-Feb-2022 |
| **Version** | 4 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

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**SDS no.** D031
**Version** 4
**Revision date** 28-Feb-2022
**Supersedes Date:** 29-Aug-2018

# Safety Data Sheet
## BARITE 4,1 D31

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** BARITE 4,1 D31
**Product code** D031

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Weighting agent. Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

_

**Contains**
Barite

Crystalline silica (impurity)

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria
Thermal decomposition can lead to release of irritating gases and vapors

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Barite | 236-664-5 | 13462-86-7 | 60-100 |
| Crystalline silica (impurity) | 238-878-4 | 14808-60-7 | 5-<10 |

**3.2 Mixtures**

Not applicable

**Comments**
This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** — If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** — Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** — Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.

**Eye Contact** — Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** — The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Thermal decomposition can lead to release of irritating gases and vapors

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Do not breathe dust. See also section 8. Material becomes slippery when wet. Use caution if wet.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading.

**Methods for cleaning up**
Sweep up and shovel into suitable containers for disposal. Avoid dust formation. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Material becomes slippery when wet. Use caution if wet.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Avoid wet and humid conditions.

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Barite | Not determined | Not determined | Not determined |
| Crystalline silica (impurity) | 0.1 mg/m³ TWA | 0.05mg/m³TWArespirable dust | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Barite | Not determined | Not determined | Not determined |
| Crystalline silica (impurity) | Not determined | 0.025 mg/m³ TWA | 0.03 mg/m³ OEL |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Barite | 6 mg/m³ MAC | Not determined | Not determined |
| Crystalline silica (impurity) | 1 mg/m³ MAC | 0.1 mg/m³ TWA | 0.05 mg/m³ TWA<br>Confirmed carcinogen |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Barite | Not determined | Not determined | 6 mg/m³ TWA<br>Fibrogenic substance 0248 |
| Crystalline silica (impurity) | 0.1 mg/m³ TWA | Not determined | 1 mg/m³ TWA<br>3 mg/m³ MAC<br>Fibrogenic substance glass;in the form of disintegration aerosol;limit is for total mass of aerosols 1153<br>Fibrogenic substance containing >70% Silicon dioxide in dust;limit is for total mass of aerosols 1154 |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |

| | | | |
|---|---|---|---|
| Barite | Not determined | Not determined | Not determined |
| Crystalline silica (impurity) | 0.025 mg/m³ TWA | Not determined | Not determined |

**Notes**
No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

**Eye protection** Use eye protection according to EN 166, designed to protect against dusts Tightly fitting safety goggles Safety glasses with side-shields

**Hand protection** Wear gloves according to EN 374 to protect against skin effects from powders Impervious gloves made of: Neoprene Nitrile PVC Frequent change is advisable

**Respiratory protection** In case of insufficient ventilation wear suitable respiratory equipment Suitable mask with particle filter P3 (European Norm 143) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection** Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls**

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

**Physical state** Solid
**Appearance** Powder Dust
**Odor** Odorless
**Color** Tan - Gray

| Property | Values | Remarks |
|---|---|---|
| **pH** | Not applicable | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | 1580 °C / 2876 °F | |
| **Boiling point/range** | No information available | |
| **Flash point** | Not applicable | |
| **Evaporation rate (BuAc =1)** | Not applicable | |
| **Flammability** | Not applicable | |

| | | |
|---|---|---|
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | Not applicable | |
| **Relative Vapor Density** | Not applicable | |
| **Specific gravity** | 4.10 - 4.25 | @ 20 °C |
| **Bulk density** | 1920 - 2400 kg/m³ | |
| **Water solubility** | Insoluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | No information available | |
| **Explosive properties** | Not applicable | |
| **Oxidizing properties** | None known. | |

### 9.2 Other information

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid dust formation. Avoid wet and humid conditions.

### 10.5 Incompatible materials

No materials to be especially mentioned.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Product information** This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis.

**Inhalation** Inhalation of dust in high concentration may cause irritation of respiratory system.

**Eye contact** Dust may cause mechanical irritation.

**Skin contact** Prolonged contact may cause redness and irritation.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Barite | > 15000 mg/kg ( Rat ) | No data available | No data available |
| Crystalline silica (impurity) | No data available | No data available | No data available |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation.

**Routes of entry** Inhalation.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Listed on PLONOR list of OSPAR

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Barite | No information available | No information available | No information available |
| Crystalline silica (impurity) | LC50 Danio rerio (zebra fish) : > 10000 mg/l 96h | EC50: > 1000 mg/l 72h | LC50 Daphnia manga (Water flea): > 10000 mg/l 24h |

### 12.2 Persistence and degradability

Product is not biodegradable. See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Barite | Inorganic compound |
| Crystalline silica (impurity) | Inorganic compound |

### 12.3 Bioaccumulative potential

Does not bioaccumulate. See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Barite | Product/Substance is inorganic |
| Crystalline silica (impurity) | Product/Substance is inorganic |

### 12.4 Mobility

**Mobility**
See component information below.

| Chemical Name | Mobility |
|---|---|
| Barite | Insoluble in water |
| Crystalline silica (impurity) | Insoluble in water |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| Barite | Not expected to adsorb on soil |
| Crystalline silica (impurity) | Not expected to adsorb on soil |

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

**14.1. UN number**

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |

| | |
|---|---|
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 29-Aug-2018 |
| **Revision date** | 28-Feb-2022 |
| **Version** | 4 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**Training Advice**
Do not handle until all safety precautions have been read and understood
Follow general hygiene considerations recognized as common good workplace practices

**HMIS classification**

| | |
|---|---|
| Health | 1* |
| Flammability | 0 |
| Physical hazard | 0 |
| PPE | E |

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**SDS no.** D020
**Version** 7
**Revision date** 28-Feb-2022
**Supersedes Date:** 11-Oct-2018

# Safety Data Sheet
## Bentonite Extender D20

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Bentonite Extender D20
**Product code** D020

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

_

**Contains**
Crystalline silica (impurity)

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Crystalline silica (impurity) | 238-878-4 | 14808-60-7 | 1-5 |

**3.2 Mixtures**

Not applicable

**Comments**
Naturally occuring mineral.
The product contains other ingredients which do not contribute to the overall classification.
This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
Do not use water jet.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Thermal decomposition can lead to release of irritating gases and vapors Nitrogen oxides (NOx).

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8. Material becomes slippery when wet. Use caution if wet.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**

Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading.

**Methods for cleaning up**
Sweep up and shovel into suitable containers for disposal. Avoid dust formation. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Material becomes slippery when wet. Use caution if wet.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Avoid wet and humid conditions.

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Crystalline silica (impurity) | 0.1 mg/m³ TWA | 0.05mg/m³TWArespirable dust | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Crystalline silica (impurity) | Not determined | 0.025 mg/m³ TWA | 0.03 mg/m³ OEL |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Crystalline silica (impurity) | 1 mg/m³ MAC | 0.1 mg/m³ TWA | 0.05 mg/m³ TWA<br>Confirmed carcinogen |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Crystalline silica (impurity) | 0.1 mg/m³ TWA | Not determined | 1 mg/m³ TWA<br>3 mg/m³ MAC<br>Fibrogenic substance glass;in the form of disintegration aerosol;limit is for total mass of aerosols 1153<br>Fibrogenic substance containing >70% Silicon dioxide in dust;limit is for total mass of aerosols 1154 |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Crystalline silica (impurity) | 0.025 mg/m³ TWA | Not determined | Not determined |

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Use eye protection according to EN 166, designed to protect against powders and dusts Tightly fitting safety goggles Safety glasses with side-shields |
| **Hand protection** | Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Use protective gloves made of: Neoprene Nitrile Frequent change is advisable |
| **Respiratory protection** | In case of insufficient ventilation wear suitable respiratory equipment Suitable mask with particle filter P3 (European Norm 143) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear appropriate personal protective clothing to prevent skin contact Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use |

### 8.2.3 Environmental exposure controls

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Physical state** | Solid |
| **Appearance** | Powder |
| **Odor** | Odorless |
| **Color** | Cream - Gray |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | No information available | |
| **pH @ dilution** | 9-10 | |
| **Melting / freezing point** | > 450 °C / 842 °F | |
| **Boiling point/range** | No information available | |
| **Flash point** | Does not flash | |
| **Evaporation rate (BuAc =1)** | Not applicable | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | 2.3 - 2.6 | 20 °C |

| | |
|---|---|
| **Bulk density** | 750 – 950 kg/m³ |
| **Water solubility** | Insoluble in water |
| **Solubility in other solvents** | No information available |
| **Autoignition temperature** | No information available |
| **Decomposition temperature** | > 500 °C / 932°F |
| **Kinematic viscosity** | No information available |
| **Dynamic viscosity** | No information available |
| **Partition Coefficient (n-octanol/water)** | No information available |
| **Density and/or Relative Density** | No information available |
| **Explosive properties** | Not applicable |
| **Oxidizing properties** | None known. |

### 9.2 Other information

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid wet and humid conditions. Avoid dust formation.

### 10.5 Incompatible materials

No materials to be especially mentioned.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

| | |
|---|---|
| **Product information** | This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. |
| **Inhalation** | Inhalation of dust in high concentration may cause irritation of respiratory system. |

**Eye contact** Dust may cause mechanical irritation.

**Skin contact** Prolonged contact may cause redness and irritation.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Crystalline silica (impurity) | No data available | No data available | No data available |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation.

**Routes of entry** Inhalation.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Listed on PLONOR list of OSPAR

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Crystalline silica (impurity) | LC50 Danio rerio (zebra fish) : > 10000 mg/l 96h | EC50: > 1000 mg/l 72h | LC50 Daphnia manga (Water flea): > 10000 mg/l 24h |

### 12.2 Persistence and degradability

Not Applicable - Inorganic chemical.

| Chemical Name | Persistence and degradability |
|---|---|
| Crystalline silica (impurity) | Inorganic compound |

### 12.3 Bioaccumulative potential

Not Applicable - Inorganic chemical.

| Chemical Name | Bioaccumulation |
|---|---|
| Crystalline silica (impurity) | Product/Substance is inorganic |

### 12.4 Mobility

**Mobility**
Insoluble in water. See component information below.

| Chemical Name | Mobility |
|---|---|
| Crystalline silica (impurity) | Insoluble in water |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| Crystalline silica (impurity) | Not expected to adsorb on soil |

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

### 14.1. UN number
Not regulated

### 14.2. UN proper shipping name
The product is not covered by international regulation on the transport of dangerous goods

### 14.3 Hazard class(es)
**ADR/RID/ADN/ADG Hazard class** Not regulated
**IMDG/ANTAQ Hazard class** Not regulated

**ICAO/ANAC Hazard class/division** Not regulated

**14.4 Packing group**
**ADR/RID/ADN/ADG Packing group** Not regulated
**IMDG/ANTAQ Packing group** Not regulated
**ICAO/ANAC Packing group** Not regulated

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

**New Zealand Hazard Classification** Not classified

**HSNO approval no.** Not required

**Group number** Not required

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian** | Complies |

**Inventory**

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 11-Oct-2018 |
| **Revision date** | 28-Feb-2022 |
| **Version** | 7 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1* |
| Flammability | 0 |
| Physical hazard | 0 |
| PPE | E |

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**SDS no.** S001
**Version** 4
**Revision date** 22-Mar-2023
**Supersedes Date:** 09-Oct-2018

# Safety Data Sheet
## Calcium Chloride S1

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Calcium Chloride S1
**Product code** S001

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards**

| | |
|---|---|
| Serious eye damage/eye irritation | Category 2 |

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
WARNING

**Hazard Statements**
H319 - Causes serious eye irritation

**Precautionary statements**
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves and eye/face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Contains**
Calcium chloride

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Calcium chloride | 233-140-8 | 10043-52-4 | 60 - 100 |

**3.2 Mixtures**

Not applicable

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.

**Skin contact** Wash off immediately with soap and plenty of water. Remove contaminated clothing and shoes. Seek medical attention if irritation occurs.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

### 4.2. Most important symptoms and effects, both acute and delayed

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Fire or high temperatures create: Nitrogen oxides (NOx), Hydrogen chloride, Chlorine, May release hydrogen gas (explosive) on contact with metals.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

**Methods for cleaning up**
Avoid generating or breathing dust. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing Do not eat, drink or smoke when using this product

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Avoid excessive heat for prolonged periods of time. Protect from moisture Avoid contact with: Oxidizing agents Acids Bases Reducing Agents Metals

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** NUI = Nuisance dust, TWA 4mg/m³ Respirable Dust, 10mg/m³ Total Dust.

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Calcium chloride | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Calcium chloride | Not determined | Not determined | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Calcium chloride | 2 mg/m³ MAC | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |

| | | | |
|---|---|---|---|
| Calcium chloride | Not determined | Not determined | 2 mg/m³ MAC (aerosol) |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Calcium chloride | Not determined | Not determined | Not determined |

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

**Eye protection** Use eye protection according to EN 166, designed to protect against powders and dusts Tightly fitting safety goggles Safety glasses with side-shields

**Hand protection** Wear gloves according to EN 374 to protect against skin effects from powders Use protective gloves made of: Neoprene Nitrile Rubber Frequent change is advisable

**Respiratory protection** No personal respiratory protective equipment normally required In case of insufficient ventilation wear suitable respiratory equipment Effective dust mask. Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection** Wear suitable protective clothing and gloves Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

### 8.2.3 Environmental exposure controls

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

**Physical state** Solid
**Appearance** Granules
**Odor** Odorless
**Color** White

| Property | Values | Remarks |
|---|---|---|
| **pH** | No information available | |
| **pH @ dilution** | 7 - 10 | 5% sol. |
| **Melting / freezing point** | No information available | |
| **Boiling point/range** | > 1600 °C / > 2912 °F | |
| **Flash point** | Not applicable | |

| | |
|---|---|
| **Evaporation rate (BuAc =1)** | No information available |
| **Flammability** | Not applicable |
| **Explosion limits:** | |
| **Upper explosion limit** | No information available |
| **Lower explosion limit** | No information available |
| **Vapor pressure** | No information available |
| **Relative Vapor Density** | No information available |
| **Specific gravity** | 1.85 - 2.20 |
| **Bulk density** | No information available |
| **Water solubility** | Soluble in water |
| **Solubility in other solvents** | No information available |
| **Autoignition temperature** | No information available |
| **Decomposition temperature** | > 772°C / 1421.6°F |
| **Kinematic viscosity** | No information available |
| **Dynamic viscosity** | No information available |
| **Partition Coefficient (n-octanol/water)** | No information available |
| **Density and/or Relative Density** | No information available |
| **Explosive properties** | No information available |
| **Oxidizing properties** | No information available |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Avoid contact with water and moist air - product is hygroscopic. Avoid excessive heat for prolonged periods of time. Avoid dust formation. Protect from moisture.

**10.5 Incompatible materials**

Oxidizing agents. Acids. Bases. Reducing agents. Metals.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.

**Eye contact** Causes serious eye irritation.

**Skin contact** May cause skin irritation and/or dermatitis.

**Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Calcium chloride | = 1000 mg/kg ( Rat ) | > 5000 mg/kg ( Rabbit ) | No data available |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation. Eye contact.

**Routes of entry** Inhalation. Eye contact.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Listed on PLONOR list of OSPAR

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**

See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Calcium chloride | = 10650 mg/L LC50 Lepomis macrochirus 96 h | No information available | 2,400 mg/L EC50 (Daphnia magna) = 48 h |

### 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Calcium chloride | Inorganic compound |

### 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Calcium chloride | Inorganic compound |

### 12.4 Mobility

**Mobility**
See component information below.

| Chemical Name | Mobility |
|---|---|
| Calcium chloride | Soluble in water |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| Calcium chloride | After release, disperses through ground water |

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

### 14.1. UN number

Not regulated

**14.2. UN proper shipping name**

The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**

No

**14.6 Special precautions**

Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

| | |
|---|---|
| **New Zealand Hazard Classification** | Additives, Process Chemicals and Raw Materials (Subsidiary Hazard) Group Standard 2020 |
| **HSNO approval no.** | HSR002503 |
| **Group number** | 6.4A |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |

| | |
|---|---|
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 09-Oct-2018 |
| **Revision date** | 22-Mar-2023 |
| **Version** | 4 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 2 |
| Flammability | 0 |
| Physical hazard | 0 |
| PPE | E |

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# Safety Data Sheet

## Cement Class G D907

**Revision date** 12-Jan-2023 **Supersedes Date:** 11-Oct-2018 **Version** 7

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Cement Class G D907
**Product code** D907
**Country Limitations** This SDS is not for use in the European Union (EU).

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards**

| | |
|---|---|
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 1 |
| Skin sensitization | Sub-Category 1B |
| Specific target organ toxicity - Single exposure | Category 3 |

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
DANGER

**Hazard Statements**
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H335 - May cause respiratory irritation

**Precautionary statements**
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician

**Supplementary precautionary statements**
P264 - Wash face, hands and any exposed skin thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P362 + P364 - Take off contaminated clothing and wash it before reuse
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Contains**
Portland Cement Clinker

### 2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

### Australian statement of hazardous/dangerous nature
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Portland Cement Clinker | 266-043-4 | 65997-15-1 | 60-100 |

**Comments**

The product contains other ingredients which do not contribute to the overall classification.

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek medical attention if irritation occurs.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Continue to rinse for at least 15 minutes. Immediate medical attention is required.

### 4.2. Most important symptoms and effects, both acute and delayed

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Thermal decomposition can lead to release of irritating gases and vapors React with hydrofluoric acid (HF) forming toxic gas

(SiF4).

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8. Avoid dust formation. Avoid breathing dust; if exposed to high dust concentration, leave area immediately. Avoid contact with the skin and the eyes.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

**Methods for cleaning up**
Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust. Pick up and transfer to properly labeled containers. Keep in suitable, closed containers for disposal. Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapors/dust. Avoid contact with skin and eyes. Avoid handling causing generation of dust. May cause sensitization of susceptible persons.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Provide appropriate exhaust ventilation at places where dust is formed. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Protect from moisture Store away from incompatibles, Powdered aluminum Acids Oxidizing agents Hydrofluoric acid (HF)

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** NUI = Nuisance dust, TWA 4mg/m³ Respirable Dust, 10mg/m³ Total Dust.

**Component Information**

| **Chemical Name** | **Arabic** | **Australia** | **Egypt** |
|---|---|---|---|
| Portland Cement Clinker | 10 mg/m³ TWA | 10 mg/m³ TWA | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Portland Cement Clinker | 10 mg/m³ TWA | 1 mg/m³ TWA | 4 mg/m³ OEL<br>1 mg/m³ OEL |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Portland Cement Clinker | Not determined | 10.0 mg/m³ TWA<br>5.0 mg/m³ TWA | 3 mg/m³ TWA<br>1 mg/m³ TWA<br>dermal sensitiser |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Portland Cement Clinker | 10 mg/m³ TWA | Not determined | Not determined |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Portland Cement Clinker | Not determined | Not determined | Not determined |

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Provide appropriate exhaust ventilation at places where dust is formed

**Personal protective equipment**

**Eye protection** Use eye protection according to EN 166, designed to protect against powders and dusts Wear chemical splash goggles and face shield

**Hand protection** Wear gloves according to EN 374 to protect against skin effects from powders Impervious gloves made of: PVC disposable gloves Rubber gloves Frequent change is advisable

**Respiratory protection** In case of insufficient ventilation wear suitable respiratory equipment Suitable mask with particle filter P3 (European Norm 143) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection** Wear appropriate personal protective clothing to prevent skin contact Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls**

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Solid |
| **Appearance** | Powder |
| **Color** | Gray or White |
| **Odor** | Odorless |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | Not applicable | |
| **pH @ dilution** | 11 - 13 | @10% sol |
| **Melting / freezing point** | > 1250 °C / 2282 °F | |
| **Boiling point/range** | No information available | |
| **Flash point** | Not applicable | |
| **Evaporation rate (BuAc =1)** | Not applicable | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | ~ 3 | |
| **Bulk density** | 0.9 - 1.5 g/cm³ | |
| **Water solubility** | 0.1-1.5 g/L @ 20 °C | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | 2.75 - 3.20 | |
| **Explosive properties** | Not applicable | |
| **Oxidizing properties** | Not applicable | |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |

**VOC content(%)** Not applicable

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

React with hydrofluoric acid (HF) forming toxic gas (SiF4).

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Protect from moisture. Avoid dust formation.

### 10.5 Incompatible materials

Acids. Powdered aluminum. Hydrofluoric acid (HF). Oxidizing agents.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** May cause respiratory irritation. Contact with moist mucous membranes of the respiratory system can cause caustic condition resulting in burns. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Eye contact** Causes serious eye damage.

**Skin contact** Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** Ingestion may cause irritation to mucous membranes.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Portland Cement Clinker | No data available | No data available | No data available |

**Sensitization** May cause allergic skin reaction.

| | |
|---|---|
| **Mutagenic effects** | This product does not contain any known or suspected mutagens. |
| **Carcinogenicity** | This product does not contain any known or suspected carcinogens. |
| **Reproductive toxicity** | This product does not contain any known or suspected reproductive hazards. |
| **Routes of Exposure** | Inhalation. Eye contact. Ingestion. Skin contact. |
| **Routes of entry** | Inhalation. Eye contact. Ingestion. Skin contact. |
| **Specific target organ toxicity - Single exposure** | Category 3 |
| **Specific target organ toxicity - Repeated exposure** | Not classified. |
| **Target organ effects** | Respiratory system. Lungs. |
| **Aspiration hazard** | Not applicable. |

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Large amounts will affect pH and harm aquatic organisms

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Portland Cement Clinker | No information available | No information available | No information available |

### 12.2 Persistence and degradability

Not Applicable - Inorganic chemical.

| Chemical Name | Persistence and degradability |
|---|---|
| Portland Cement Clinker | Inorganic compound |

### 12.3 Bioaccumulative potential

Not Applicable - Inorganic chemical.

| Chemical Name | Bioaccumulation |
|---|---|
| Portland Cement Clinker | Product/Substance is inorganic |

**12.4 Mobility**

**Mobility**
Slightly soluble in water.

**Mobility in soil**
No information available.

**12.5 Other adverse effects**

None known.

**12.6 Other information.**

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**
**ADR/RID/ADN/ADG Hazard class** Not regulated
**IMDG/ANTAQ Hazard class** Not regulated
**ICAO/ANAC Hazard class/division** Not regulated

**14.4 Packing group**
**ADR/RID/ADN/ADG Packing group** Not regulated
**IMDG/ANTAQ Packing group** Not regulated
**ICAO/ANAC Packing group** Not regulated

**14.5 Environmental hazard**
No

**14.6 Special precautions**
None

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

Portland Cement Clinker
Schedule 4
Schedule 6
Schedule 5

**New Zealand Hazard Classification** Construction Products (Subsidiary Hazard) Group Standard 2020

**HSNO approval no.** HSR002544

**Group number** 6.1E, 6.3A, 6.5B, 8.3A

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Does not comply |
| **Japan (ENCS)** | Does not comply |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

## 16. Other Information

**Prepared by** Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Poh Yue Cheong

| | |
|---|---|
| **Supersedes Date:** | 11-Oct-2018 |
| **Revision date** | 12-Jan-2023 |
| **Version** | 7 |
| **This SDS has been revised in the following section(s)** | No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 3 * |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | E |

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**SDS no.** D080
**Version** 5
**Revision date** 14-Apr-2022
**Supersedes Date:** 10-Feb-2021

# Safety Data Sheet
## Cement Liquid Dispersant D80

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Cement Liquid Dispersant D80
**Product code** D080

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards**

| | |
|---|---|
| Chronic aquatic toxicity | Category 2 |

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
H411 - Toxic to aquatic life with long lasting effects

**Precautionary statements**
P273 - Avoid release to the environment
P391 - Collect spillage
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

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**Contains**
Naphthalenesulfonic acid, sodium salt, polymer with formaldehyde

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
HAZARDOUS SUBSTANCE. DANGEROUS GOODS.
Classified as Hazardous according to the criteria of NOHSC.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Naphthalenesulfonic acid, sodium salt, polymer with formaldehyde | Polymer | 9008-63-3 | 30-60 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification.

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek medical attention if irritation occurs.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

### 4.2. Most important symptoms and effects, both acute and delayed

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx), Sulphur oxides.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

**Hazchem code ADG** 3Z

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see Section 13). After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid spills and splashing during use. Do not breathe vapors or spray mist.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. Wash hands and face before breaks and immediately after handling the product Do not eat, drink or smoke when using this product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Do not freeze Store above 0°C Avoid contact with: Oxidizing agents Acids

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** The product does not contain any hazardous materials with occupational exposure limits established.

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Naphthalenesulfonic acid, sodium salt, polymer with formaldehyde | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Naphthalenesulfonic acid, sodium salt, polymer with formaldehyde | Not determined | Not determined | Not determined |

| Chemical Name | Kazakhstan | Kuwait | New Zealand |
|---|---|---|---|
| Naphthalenesulfonic acid, sodium salt, polymer with formaldehyde | Not determined | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Naphthalenesulfonic acid, sodium salt, polymer with formaldehyde | Not determined | Not determined | Not determined |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Naphthalenesulfonic acid, sodium salt, polymer with formaldehyde | Not determined | Not determined | Not determined |

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation, especially in confined areas

**Personal protective equipment**

**Eye protection** Use eye protection according to EN 166, designed to protect against liquid splashes Tightly fitting safety goggles Safety glasses with side-shields

**Hand protection** Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training
Wear chemical resistant gloves such as nitrile or neoprene.
Be aware that liquid may penetrate the gloves. Frequent change is advisable.

**Respiratory protection** No personal respiratory protective equipment normally required In case of insufficient ventilation wear suitable respiratory equipment Respirator with combination filter for vapour/particulate (EN 141) Type A/P2 At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection** Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

### 8.2.3 Environmental exposure controls

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

**Physical state** Liquid
**Appearance** Opaque
**Odor** Pungent

| | |
|---|---|
| **Color** | Dark brown |

| Property | Values | Remarks |
|---|---|---|
| **pH** | 6 - 8 | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | -2 °C / 28 °F | |
| **Boiling point/range** | 100 °C / 212 °F | |
| **Flash point** | Does not flash | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | >1 (air = 1) | |
| **Specific gravity** | 1.2 g/cm3 | 20 °C |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | 60 mPa s | |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | No information available | |
| **Explosive properties** | No information available | |
| **Oxidizing properties** | No information available | |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Do not freeze. Store above 0°C.

**10.5 Incompatible materials**

Oxidizing agents. Acids.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** Inhalation of vapors in high concentration may cause irritation of respiratory system.

**Eye contact** May cause slight irritation.

**Skin contact** Prolonged contact may cause redness and irritation.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Naphthalenesulfonic acid, sodium salt, polymer with formaldehyde | No data available | No data available | No data available |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** None known.

**Routes of entry** No route of entry noted.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Neurological effects** None known.

**Target organ effects** None known.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

Toxic to aquatic life with long lasting effects

**Toxicity to algae**
EC50 1.8 mg/l Skeletonema Costatum 48 h.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
LC50 > 100 mg/l Acartia tonsa 48 h.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Naphthalenesulfonic acid, sodium salt, polymer with formaldehyde | No information available | No information available | No information available |

### 12.2 Persistence and degradability

Product is not biodegradable.

### 12.3 Bioaccumulative potential

Bioaccumulation is unlikely.

### 12.4 Mobility

**Mobility**
Soluble in water.

**Mobility in soil**
No information available.

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

. .

### 14.1. UN number

| | |
|---|---|
| **UN/ID No. (ADR/RID/ADN/ADG)** | UN3082 |
| **UN No. (IMDG/ANTAQ)** | UN3082 |
| **UN No. (ICAO/ANAC)** | UN3082 |

**14.2. UN proper shipping name**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Sodium polynaphthalene sulfonate)

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | 9 |
| **IMDG/ANTAQ Hazard class** | 9 |
| **ICAO/ANAC Hazard class/division** | 9 |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | III |
| **IMDG/ANTAQ Packing group** | III |
| **ICAO/ANAC Packing group** | III |

**14.5 Environmental hazard**

Yes

**14.6 Special precautions**

| | |
|---|---|
| **Hazard identification no (ADR)** | 90 |
| **EmS (IMDG)** | F-A, S-F |
| **Emergency Action Code (EAC)** | 3Z |
| **Tunnel restriction code** | (-) |
| **Hazchem code ADG** | 3Z |

**14.7 Maritime transport in bulk according to IMO instruments**

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

**New Zealand Hazard Classification** Construction Products (Subsidiary Hazard) Group Standard 2020

**HSNO approval no.** HSR002544

**Group number** 9.1B

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**ADG Code – Australian Dangerous Goods Code**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam |
| **Supersedes Date:** | 10-Feb-2021 |
| **Revision date** | 14-Apr-2022 |
| **Version** | 5 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1 |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | B |

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**The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS**

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**SDS no.** D110
**Version** 6
**Revision date** 14-Apr-2023
**Supersedes Date:** 08-Sep-2022

# Safety Data Sheet
## Cement Retarder D110

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Cement Retarder D110
**Product code** D110

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**Contains** No hazardous components

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

No classified ingredients, or those having occupational exposure limits, present above the level of disclosure.

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx).

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Do not freeze Store above 0°C Store away from incompatibles, Strong oxidizing agents |
| **Storage class** | Chemical storage. |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** Contains no substances with occupational exposure limit values

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Use eye protection according to EN 166, designed to protect against liquid splashes Safety glasses with side-shields Tightly fitting safety goggles |
| **Hand protection** | Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Neoprene Nitrile Rubber<br>Break through time >480 minutes<br>Glove thickness 0.5 mm<br>Be aware that liquid may penetrate the gloves. Frequent change is advisable. |
| **Respiratory protection** | In case of insufficient ventilation wear suitable respiratory equipment Respirator with combination filter for vapour/particulate (EN 141) Type A/P2 In case of insufficient ventilation, wear suitable respiratory equipment |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |

**Hygiene Measures** Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls**

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Opaque |
| **Odor** | Sweet |
| **Color** | Brown |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | 6 - 9 | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | -4 °C / 24.8 °F | |
| **Boiling point/range** | 100 °C / 212 °F | |
| **Flash point** | > 100 °C / > 212 °F | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | No information available | |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | >242°C / >467.6 °F | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | 1.5 cSt | @ 40 °C |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | 1.125 - 1.141 g/mL @ 25°C. | |
| **Explosive properties** | None known | |
| **Oxidizing properties** | None known. | |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |

**Comments**

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Do not freeze. Store above 0°C.

### 10.5 Incompatible materials

Strong oxidizing agents.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

| | |
|---|---|
| **Inhalation** | Inhalation of vapors in high concentration may cause irritation of respiratory system. |
| **Eye contact** | May cause slight irritation. |
| **Skin contact** | Prolonged contact may cause redness and irritation. |
| **Ingestion** | Ingestion may cause stomach discomfort. |
| **Unknown acute toxicity** | Not applicable. |
| **Sensitization** | This product does not contain any components suspected to be sensitizing. |
| **Mutagenic effects** | This product does not contain any known or suspected mutagens. |
| **Carcinogenicity** | This product does not contain any known or suspected carcinogens. |
| **Reproductive toxicity** | This product does not contain any known or suspected reproductive hazards. |
| **Routes of Exposure** | None known. |
| **Routes of entry** | No route of entry noted. |

| | |
|---|---|
| **Specific target organ toxicity - Single exposure** | Not classified |
| **Specific target organ toxicity - Repeated exposure** | Not classified. |
| **Aspiration hazard** | Not applicable. |

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

Product is biodegradable.

### 12.3 Bioaccumulative potential

Does not bioaccumulate.

### 12.4 Mobility

**Mobility**
The product is water soluble, and may spread in water systems.

**Mobility in soil**
No information available.

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

**New Zealand Hazard Classification** Not classified

**HSNO approval no.** Not required

**Group number** Not required

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Does not comply |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Does not comply |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 08-Sep-2022 |
| **Revision date** | 14-Apr-2023 |
| **Version** | 6 |
| **This SDS has been revised in the following section(s)** | 15. Regulatory Information No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1 |
| Flammability | 0 |
| Physical hazard | 0 |
| PPE | E |

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**SDS no.** D079
**Version** 3
**Revision date** 08-Oct-2018
**Supersedes Date:** 22-Jan-2015

# Safety Data Sheet
## Chemical Extender D79

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Chemical Extender D79
**Product code** D079

**CAS No** 6834-92-0
**EC No** 229-912-9

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Oilfield Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
256 St. Georges Terrace, Perth WA 6000
+47 5157 7424

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards**

| | |
|---|---|
| Skin corrosion/irritation | Category 1 B |
| Specific target organ toxicity - Single exposure | Category 3 |

**Environmental hazards** Not classified

**Physical Hazards**

| | |
|---|---|
| Substances/mixtures corrosive to metal | Category 1 |

### 2.2 Label elements

**Signal word**
DANGER

**Hazard Statements**
H314 - Causes severe skin burns and eye damage
H335 - May cause respiratory irritation
H290 - May be corrosive to metals

**Precautionary statements**
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves and eye/face protection
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Supplementary precautionary statements**
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P310 - Immediately call a POISON CENTER or doctor/physician
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P363 - Wash contaminated clothing before reuse
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

**Contains**
Disodium metasilicate

### 2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

### Australian statement of hazardous/dangerous nature
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

## 3. Composition/information on Ingredients

### 3.1 Substances

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Disodium metasilicate | 229-912-9 | 6834-92-0 | 60 - 100 |

### 3.2 Mixtures

Not applicable

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** Move the exposed person to fresh air at once. If breathing is difficult, (trained personnel should) give oxygen. If not breathing, give artificial respiration. Seek medical attention at once.

**Ingestion** Do NOT induce vomiting. Get immediate medical attention. Rinse mouth. Risk of product entering the lungs on vomiting after ingestion. Never give anything by mouth to an unconscious person.

**Skin contact** Promptly wash contaminated skin with soap or mild detergent and water. Promptly remove clothing if soaked through and wash as above. Burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Chemical burns must be treated by a physician.

**Eye Contact** Remove contact lenses, if worn. Immediately flush eyes with water for 15 minutes while holding eyelids open. Seek medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

**General advice** Seek medical attention for all burns, regardless how minor they may seem. The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water Fog, Alcohol Foam, $CO_2$, Dry Chemical.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Thermal decomposition can lead to release of irritating gases and vapors

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Do not get on skin or clothing. Wash thoroughly after handling. Avoid dust formation. Do not breathe dust. Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Prevent dust cloud. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

**Methods for cleaning up**
Avoid dust formation. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Do not get in eyes, on skin or on clothing. Avoid dust formation. Do not breathe dust.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not eat, drink, smoke, sniff Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from direct sunlight. Protect from moisture Store away from incompatibles, See Section 10 |
| **Storage class** | Corrosive storage. |
| **Packaging materials** | Use specially constructed containers only. |

**Packaging materials to be avoided** Aluminium

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** Contains no substances with occupational exposure limit values

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Disodium metasilicate | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Disodium metasilicate | Not determined | Not determined | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Disodium metasilicate | Not determined | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Disodium metasilicate | Not determined | Not determined | Not determined |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Disodium metasilicate | Not determined | Not determined | Not determined |

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation, especially in confined areas

**Personal protective equipment**

**Eye protection** Tightly fitting safety goggles Face-shield

**Hand protection** Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training
Repeated or prolonged contact Impervious gloves made of: PVC or Nitrile rubber
Always ensure that gloves are free from defects and that they are stored and used correctly
Frequent change is advisable

**Respiratory protection** Use only with adequate ventilation Effective dust mask. P2

**Skin and body protection** Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before breaks and immediately after handling the product

### 8.2.3 Environmental exposure controls

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Physical state** | Solid |
| **Appearance** | Crystals |
| **Odor** | Odorless |
| **Color** | White |
| **Odor threshold** | Not applicable |

| Property | Values | Remarks |
|---|---|---|
| **pH** | 12.6 | |
| **pH @ dilution** | 10 g/l | |
| **Melting / freezing point** | 1088 °C / 1990 °F | |
| **Boiling point/range** | Not applicable | |
| **Flash point** | Not applicable | |
| **Evaporation rate (BuAc =1)** | Not applicable | |
| **Flammability (solid, gas)** | Not applicable | |
| **Flammability Limit in Air** | | |
| **Upper flammability limit** | Not applicable | |
| **Lower flammability limit** | Not applicable | |
| **Vapor pressure** | No information available | |
| **Vapor density** | No information available | |
| **Specific gravity** | 2.4 g/mL | @22 °C |
| **Bulk density** | No information available | |
| **Relative density** | 2.4 | @ 22°C. |
| **Water solubility** | Soluble in water 270 g/L @ 30 °C | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **log Pow** | Does not bioaccumulate | |

| | |
|---|---|
| **Explosive properties** | None |
| **Oxidizing properties** | None |

### 9.2 Other information

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |
| **Density** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

Corrosive to aluminum when wet. Gives off hydrogen by reaction with metals. Reacts violently with acids.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Excessive heat. Avoid dust formation. Protect from moisture.

### 10.5 Incompatible materials

Aluminum. Metals. Alkalis. Strong acids. Oxidizing agents.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** May cause respiratory irritation.

**Eye contact** Causes burns. Causes serious eye damage.

**Skin contact** Causes severe skin burns.

**Ingestion** Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Disodium metasilicate | = 1153 mg/kg ( Rat ) | No data available | No data available |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of exposure** Skin contact. Inhalation. Eye contact.

**Routes of entry** Skin contact. Inhalation. Eye contact.

**Specific target organ toxicity - Single exposure** Category 3

**Specific target organ toxicity - Repeated exposure** Not classified.

**Target organ effects** Respiratory system.

**Aspiration hazard** Not applicable.

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Disodium metasilicate | = 210 mg/L LC50 Brachydanio rerio 96 h | No information available | = 216 mg/L EC50 Daphnia magna 96 h |

### 12.2 Persistence and degradability

Not Applicable - Inorganic chemical.

### 12.3 Bioaccumulative potential

Does not bioaccumulate.

### 12.4 Mobility

**Mobility**
The product is water soluble, and may spread in water systems.

**Mobility in soil**
No information available.

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

### 12.6 Other adverse effects.

The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

### 12.7 Other information
Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

### 14.1. UN number

**UN/ID No. (ADR/RID/ADN/ADG)** UN3253
**UN No. (IMDG/ANTAQ)** UN3253
**UN No. (ICAO/ANAC)** UN3253

### 14.2. UN proper shipping name
DISODIUM TRIOXOSILICATE,

### 14.3 Hazard class(es)
**ADR/RID/ADN/ADG Hazard class** 8
**IMDG/ANTAQ Hazard class** 8
**ICAO/ANAC Hazard class/division** 8

### 14.4 Packing group
**ADR/RID/ADN/ADG Packing group** PG III
**IMDG/ANTAQ Packing group** PG III
**ICAO/ANAC Packing group** PG III

### 14.5 Environmental hazard

**Marine pollutant**
No

### 14.6 Special precautions
**Hazard identification no (ADR)** 80
**EmS (IMDG)** F-A, S-B
**Emergency Action Code (EAC)** 2X
**Tunnel restriction code** E

### 14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**ADG Code – Australian Dangerous Goods Code**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Ingrid Helland |
| **Supersedes Date:** | 22-Jan-2015 |
| **Revision date** | 08-Oct-2018 |
| **Version** | 3 |
| **This SDS has been revised in the following section(s)** | 1, 5, 7, 8, 15, 16<br>No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 3 |
| Flammability | 0 |
| Physical hazard | 4 |
| PPE | X |

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**SDS no.** D956
**Version** 7
**Revision date** 31-Aug-2023
**Supersedes Date:** 11-Oct-2018

# Safety Data Sheet
## Class G - Silica Blend D956

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Class G - Silica Blend D956
**Product code** D956
**Chemical name** This SDS is only for use in New Zealand and Australia

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards**

| | |
|---|---|
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 1 |
| Skin sensitization | Category 1B |
| Carcinogenicity | Category 1A |
| Specific target organ toxicity - Single exposure | Category 3 |
| Specific target organ toxicity - Repeated exposure | Category 1 |

**Environmental hazards** Not classified

**Physical Hazards** Not classified

## 2.2 Label elements

**Signal word**
DANGER

**Hazard Statements**
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H350 - May cause cancer
H372 - Causes damage to organs through prolonged or repeated exposure

**Precautionary statements**
P201 - Obtain special instructions before use
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician

**Supplementary precautionary statements**
P202 - Do not handle until all safety precautions have been read and understood
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P272 - Contaminated work clothing should not be allowed out of the workplace
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P362 + P364 - Take off contaminated clothing and wash it before reuse
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Contains**
Portland Cement Clinker

Quartz, Crystalline silica

Respirable Crystalline Silica (Quartz)

## 2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

### Australian statement of hazardous/dangerous nature
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

# 3. Composition/information on Ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Portland Cement Clinker | 266-043-4 | 65997-15-1 | 60-100 |
| Quartz, Crystalline silica | 238-878-4 | 14808-60-7 | 30-60 |
| Respirable Crystalline Silica (Quartz) | 238-878-4 | 14808-60-7 | <3 |

**Comments**
IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

The product contains other ingredients which do not contribute to the overall classification.

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation persists.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention at once.

### 4.2. Most important symptoms and effects, both acute and delayed

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
React with hydrofluoric acid (HF) forming toxic gas (SiF4).

**Hazardous combustion products**
Thermal decomposition can lead to release of irritating gases and vapors

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Do not get on skin or clothing. Wash thoroughly after handling. Avoid dust formation. Avoid breathing dust; if exposed to high dust concentration, leave area immediately. Use personal protection equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

**Methods for cleaning up**
Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust. Pick up and transfer to properly labeled containers. Keep in suitable, closed containers for disposal. Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapors/dust. Avoid contact with skin and eyes. Avoid handling causing generation of dust. Persons susceptible to allergic reactions should not handle this product.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not eat or drink Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Provide appropriate exhaust ventilation at places where dust is formed. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Protect from moisture Store away from incompatibles, Powdered aluminum Acids Oxidizing agents Hydrofluoric acid (HF)

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Portland Cement Clinker | 10 mg/m³ TWA | 10 mg/m³ TWA | Not determined |
| Quartz, Crystalline silica | 0.1 mg/m³ TWA | 0.05mg/m³TWArespirable dust | Not determined |
| Respirable Crystalline Silica (Quartz) | 0.1 mg/m³ TWA | 0.05mg/m³TWArespirable dust | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Portland Cement Clinker | 10 mg/m³ TWA | 1 mg/m³ TWA | 4 mg/m³ OEL<br>1 mg/m³ OEL |
| Quartz, Crystalline silica | Not determined | 0.025 mg/m³ TWA | 0.03 mg/m³ OEL |
| Respirable Crystalline Silica (Quartz) | Not determined | 0.025 mg/m³ TWA | 0.03 mg/m³ OEL |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Portland Cement Clinker | Not determined | 10.0 mg/m³ TWA<br>5.0 mg/m³ TWA | 3 mg/m³ TWA<br>1 mg/m³ TWA<br>dermal sensitiser |
| Quartz, Crystalline silica | 1 mg/m³ MAC | 0.1 mg/m³ TWA | 0.05 mg/m³ TWA<br>Confirmed carcinogen |
| Respirable Crystalline Silica (Quartz) | 1 mg/m³ MAC | 0.1 mg/m³ TWA | 0.05 mg/m³ TWA<br>Confirmed carcinogen |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Portland Cement Clinker | 10 mg/m³ TWA | Not determined | Not determined |
| Quartz, Crystalline silica | 0.1 mg/m³ TWA | Not determined | 1 mg/m³ TWA<br>3 mg/m³ MAC<br>Fibrogenic substance glass;in the form of disintegration aerosol;limit is for total mass of aerosols 1153<br>Fibrogenic substance containing >70% Silicon dioxide in dust;limit is for total mass of aerosols 1154 |
| Respirable Crystalline Silica (Quartz) | 0.1 mg/m³ TWA | Not determined | 1 mg/m³ TWA<br>3 mg/m³ MAC<br>Fibrogenic substance glass;in the form of disintegration aerosol;limit is for total mass of aerosols 1153<br>Fibrogenic substance containing >70% Silicon dioxide in dust;limit is for total mass of aerosols 1154 |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Portland Cement Clinker | Not determined | Not determined | Not determined |

| | | | |
|---|---|---|---|
| Quartz, Crystalline silica | 0.025 mg/m³ TWA | Not determined | Not determined |
| Respirable Crystalline Silica (Quartz) | 0.025 mg/m³ TWA | Not determined | Not determined |

**Notes**
No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Provide appropriate exhaust ventilation at places where dust is formed Keep airborne concentrations below exposure limits

**Personal protective equipment**

**Eye protection** Use eye protection according to EN 166, designed to protect against powders and dusts
Wear chemical splash goggles and face shield

**Hand protection** Wear gloves according to EN 374 to protect against skin effects from powders
Impervious gloves made of: Neoprene Nitrile
Frequent change is advisable

**Respiratory protection** In case of insufficient ventilation wear suitable respiratory equipment Suitable mask with particle filter P3 (European Norm 143) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection** Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before breaks and immediately after handling the product

**8.2.3 Environmental exposure controls**

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Solid |
| **Appearance** | Powder |
| **Color** | Gray |
| **Odor** | Odorless |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | No information available | |
| **pH @ dilution** | 11.0 - 13.5 | |
| **Melting / freezing point** | > 1250 °C / 2282 °F | |
| **Boiling point/range** | No information available | |
| **Flash point** | Not applicable | |

| | |
|---|---|
| **Evaporation rate (BuAc =1)** | No information available |
| **Flammability** | Not applicable |
| **Explosion limits:** | |
| **Upper explosion limit** | No information available |
| **Lower explosion limit** | No information available |
| **Vapor pressure** | No information available |
| **Relative Vapor Density** | No information available |
| **Specific gravity** | No information available |
| **Bulk density** | 0.9 - 1.5 g/cm³ |
| **Water solubility** | Slightly soluble in water. |
| **Solubility in other solvents** | No information available |
| **Autoignition temperature** | No information available |
| **Decomposition temperature** | No information available |
| **Kinematic viscosity** | No information available |
| **Dynamic viscosity** | No information available |
| **Partition Coefficient (n-octanol/water)** | No information available |
| **Density and/or Relative Density** | 2.75 - 3.20 |
| **Explosive properties** | Not applicable |
| **Oxidizing properties** | Not applicable |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | Not applicable |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

React with hydrofluoric acid (HF) forming toxic gas (SiF4).

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Protect from moisture. Avoid dust formation.

**10.5 Incompatible materials**

Powdered aluminum. Acids. Strong oxidizing agents. Hydrofluoric acid (HF).

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Product information** IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

**Inhalation** May cause respiratory irritation. Causes damage to organs through prolonged or repeated exposure. Contact with moist mucous membranes of the respiratory system can cause caustic condition resulting in burns.

**Eye contact** Causes serious eye damage.

**Skin contact** Causes skin irritation. May cause an allergic skin reaction. May cause pain, redness, discomfort. Repeated exposure may cause skin dryness or cracking.

**Ingestion** Ingestion may cause irritation to mucous membranes.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Portland Cement Clinker | No data available | No data available | No data available |
| Quartz, Crystalline silica | No data available | No data available | No data available |
| Respirable Crystalline Silica (Quartz) | No data available | No data available | No data available |

**Sensitization** May cause allergic skin reaction.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** Contains a known or suspected carcinogen. Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation. Eye contact. Skin contact. Ingestion.

**Routes of entry** Inhalation. Skin contact. Eye contact. Ingestion.

**Specific target organ toxicity - Single exposure** Category 3

**Specific target organ toxicity - Repeated exposure** Category 1.

**Target organ effects** Respiratory system. Lungs.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Large amounts will affect pH and harm aquatic organisms

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Portland Cement Clinker | No information available | No information available | No information available |
| Quartz, Crystalline silica | No information available | No information available | No information available |
| Respirable Crystalline Silica (Quartz) | No information available | No information available | No information available |

## 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Portland Cement Clinker | Inorganic compound |
| Quartz, Crystalline silica | Inorganic compound |
| Respirable Crystalline Silica (Quartz) | Inorganic compound |

## 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Portland Cement Clinker | Product/Substance is inorganic |
| Quartz, Crystalline silica | Product/Substance is inorganic |
| Respirable Crystalline Silica (Quartz) | Product/Substance is inorganic |

## 12.4 Mobility

**Mobility**
Slightly soluble in water. See component information below.

| Chemical Name | Mobility |
|---|---|
| Quartz, Crystalline silica | Insoluble in water |
| Respirable Crystalline Silica (Quartz) | Insoluble in water |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| Quartz, Crystalline silica | Not expected to adsorb on soil |
| Respirable Crystalline Silica (Quartz) | Not expected to adsorb on soil |

## 12.5 Other adverse effects

None known.

## 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

Portland Cement Clinker
Schedule 4
Schedule 6
Schedule 5

**New Zealand Hazard Classification** Construction Products (Carcinogenic) Group Standard 2020

| | |
|---|---|
| **HSNO approval no.** | HSR002545 |
| **Group number** | 6.3A, 8.3A, 6.5B, 6.1E, 6.7A, 6.9A |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Does not comply |
| **Japan (ENCS)** | Does not comply |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

This SDS is only for use in New Zealand and Australia

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 11-Oct-2018 |
| **Revision date** | 31-Aug-2023 |
| **Version** | 7 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 3* |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | X |

**Disclaimer**
**The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS**

**information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.**
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# Safety Data Sheet

## MUDPUSH Seal* Base Additive D590

**Revision date** 05/Oct/2023 **Version** 1

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** MUDPUSH Seal* Base Additive D590
**Product code** D590
**Country Limitations** This SDS is not for use in the European Union (EU).

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Lost circulation material.

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger
No.1, Benoi Crescent
Singapore 629986
Phone: +47 51 57 74 24

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

–

**Contains**
Cellulose

Sodium carbonate

Crystalline silica (impurity)

2-methylpropan-2-ol (impurity)

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria
Combustible dust

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Cellulose | Listed | Proprietary | 60-100 |
| Sodium carbonate | 207-838-8 | 497-19-8 | 5-<10 |
| Crystalline silica (impurity) | 238-878-4 | 14808-60-7 | 1-5 |
| 2-methylpropan-2-ol (impurity) | 200-889-7 | 75-65-0 | <1 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification.

This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

### 4.2. Most important symptoms and effects, both acute and delayed

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
Do not use a solid water stream as it may scatter and spread fire.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
Combustible material. Dust may form explosive mixture in air.

**Hazardous combustion products**
Thermal decomposition can lead to release of irritating gases and vapors Carbon oxides (COx), Nitrogen oxides (NOx), Silicon oxide, Sodium oxides.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**
Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Take precautionary measures against static discharges. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. Keep airborne concentrations below exposure limits. Take precautionary measures against static discharges. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from open flames, hot surfaces and sources of ignition Protect from moisture Avoid contact with: Aluminum Oxidizing agents Strong acids |
| **Storage class** | Chemical storage. |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Cellulose | 10 mg/m³ TWA | 10mg/m³TWAinhalable dust | Not determined |
| Sodium carbonate | Not determined | Not determined | Not determined |
| Crystalline silica (impurity) | 0.1 mg/m³ TWA | 0.05mg/m³TWArespirable dust | Not determined |
| 2-methylpropan-2-ol (impurity) | 100 ppm TWA<br>303 mg/m³ TWA | 150ppmSTEL<br>455mg/m³STEL<br>100ppmTWA<br>303mg/m³TWA | 100 ppm TWA<br>303 mg/m³ TWA |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Cellulose | Not determined | 10 mg/m³ TWA | Not determined |
| Sodium carbonate | Not determined | Not determined | Not determined |
| Crystalline silica (impurity) | Not determined | 0.025 mg/m³ TWA | 0.03 mg/m³ OEL |
| 2-methylpropan-2-ol (impurity) | Not determined | 100 ppm TWA<br>303 mg/m³ TWA | 50 ppm OEL<br>150 mg/m³ OEL |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Cellulose | 10 mg/m³ MAC | Not determined | 10 mg/m³ TWA |
| Sodium carbonate | Not determined | Not determined | Not determined |
| Crystalline silica (impurity) | 1 mg/m³ MAC | 0.1 mg/m³ TWA | 0.05 mg/m³ TWA<br>Confirmed carcinogen |
| 2-methylpropan-2-ol (impurity) | 10 mg/m³ MAC | Not determined | 150 ppm STEL<br>455 mg/m³ STEL<br>100 ppm TWA<br>303 mg/m³ TWA |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Cellulose | 10 mg/m³ TWA | Not determined | 10 mg/m³ MAC |
| Sodium carbonate | Not determined | Not determined | Skin notation<br>2 mg/m³ MAC<br>Skin |
| Crystalline silica (impurity) | 0.1 mg/m³ TWA | Not determined | 1 mg/m³ TWA<br>3 mg/m³ MAC<br>Fibrogenic substance glass;in the form of disintegration aerosol;limit is for total mass of aerosols 1153<br>Fibrogenic substance containing >70% Silicon dioxide in dust;limit is for total mass of aerosols 1154 |
| 2-methylpropan-2-ol (impurity) | 100 ppm TWA<br>303 mg/m³ TWA | 100 ppm TWA<br>300 mg/m³ TWA | 10 mg/m³ MAC |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Cellulose | Not determined | 10 mg/m³ TWA<br>5 mg/m³ TWA<br>20 mg/m³ STEL | Not determined |
| Sodium carbonate | Not determined | Not determined | Not determined |
| Crystalline silica (impurity) | 0.025 mg/m³ TWA | Not determined | Not determined |
| 2-methylpropan-2-ol (impurity) | 100 ppm TWA | Not determined | Not determined |

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Provide appropriate exhaust ventilation at places where dust is formed

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Use eye protection according to EN 166, designed to protect against dusts Tightly fitting safety goggles Safety glasses with side-shields |
| **Hand protection** | Wear gloves according to EN 374 to protect against skin effects from powders Repeated or prolonged contact Use protective gloves made of: Nitrile Neoprene Frequent change is advisable |
| **Respiratory protection** | No personal respiratory protective equipment normally required In case of insufficient ventilation wear suitable respiratory equipment Suitable mask with particle filter P3 (European Norm 143) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Solid |
| **Appearance** | Powder |
| **Color** | Brown |
| **Odor** | No information available |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | No information available | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | No information available | |
| **Boiling point/range** | No information available | |
| **Flash point** | Not applicable | |
| **Evaporation rate** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | No information available | |
| **Bulk density** | 0.5 - 0.95 g/cm3 | |
| **Water solubility** | slightly soluble | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |

| | |
|---|---|
| **Decomposition temperature** | No information available |
| **Kinematic viscosity** | No information available |
| **Dynamic viscosity** | No information available |
| **Partition Coefficient (n-octanol/water)** | No information available |
| **Density and/or Relative Density** | No information available |
| **Explosive properties** | Suspended dust may present a dust explosion hazard |
| **Oxidizing properties** | None known. |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

Combustible material. Dust may form explosive mixture in air.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Avoid dust formation. Protect from moisture. Take precautionary measures against static charges. Keep away from open flames, hot surfaces and sources of ignition.

**10.5 Incompatible materials**

Aluminum. Oxidizing agents. Strong acids.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity**

| | |
|---|---|
| **Product information** | This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. |

**Inhalation** Inhalation of dust in high concentration may cause irritation of respiratory system.

**Eye contact** Dust may cause mechanical irritation.

**Skin contact** Prolonged contact may cause redness and irritation.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Cellulose | > 5 g/kg ( Rat ) | > 2000 mg/kg ( Rabbit ) | > 5800 mg/m³ ( Rat ) 4 h |
| Sodium carbonate | = 4090 mg/kg ( Rat ) | > 2000 mg/kg ( Rabbit ) | = 2300 mg/m³ ( Rat ) 2 h |
| Crystalline silica (impurity) | No data available | No data available | No data available |
| 2-methylpropan-2-ol (impurity) | = 2200 mg/kg ( Rat ) | > 2 g/kg ( Rabbit ) | > 10000 ppm ( Rat ) 4 h |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation.

**Routes of entry** Inhalation.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Cellulose | No information available | No information available | No information available |
| Sodium carbonate | 310 - 1220 mg/L LC50 Pimephales promelas 96 h<br>= 300 mg/L LC50 Lepomis macrochirus 96 h | No information available | = 265 mg/L EC50 Daphnia magna 48 h |
| Crystalline silica (impurity) | LC50 Danio rerio (zebra fish) : > 10000 mg/l 96h | EC50: > 1000 mg/l 72h | LC50 Daphnia manga (Water flea): > 10000 mg/l 24h |
| 2-methylpropan-2-ol (impurity) | 6130 - 6700 mg/L LC50 Pimephales promelas 96 h | > 1000 mg/L EC50 Desmodesmus subspicatus 72 h | = 933 mg/L EC50 Daphnia magna 48 h<br>4607 - 6577 mg/L EC50 Daphnia magna 48 h |

## 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Crystalline silica (impurity) | Inorganic compound |

## 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Crystalline silica (impurity) | Product/Substance is inorganic |

## 12.4 Mobility

**Mobility**
Slightly soluble in water. See component information below.

| Chemical Name | Mobility |
|---|---|
| Crystalline silica (impurity) | Insoluble in water |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| Crystalline silica (impurity) | Not expected to adsorb on soil |

## 12.5 Other adverse effects

None known.

## 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. |
| **Contaminated packaging** | Empty containers should be taken for local recycling, recovery or waste disposal. |

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

Sodium carbonate
Schedule 6
Schedule 5

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Does not comply |
| **Japan (ENCS)** | Does not comply |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Does not comply |
| **New Zealand (NZIoC)** | Complies |

This SDS is not for use in the European Union (EU).

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Poh Yue Cheong |
| **Revision date** | 05/Oct/2023 |
| **Version** | 1 |
| **This SDS has been revised in the following section(s)** | New issue. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 3* |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | X |

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# Safety Data Sheet

## MUDPUSH Seal* Severe Losses Additive D592

**Revision date** 09/Oct/2023 **Version** 1

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** MUDPUSH Seal* Severe Losses Additive D592
**Product code** D592
**Country Limitations** This SDS is not for use in the European Union (EU).

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Lost circulation material.

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger
No.1, Benoi Crescent
Singapore 629986
Phone: +47 51 57 74 24

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

–

**Contains**
Cellulose

Crystalline silica (impurity)

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria
Combustible dust

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Cellulose | Listed | Proprietary | 60-100 |
| Crystalline silica (impurity) | 238-878-4 | 14808-60-7 | 1-5 |

**Comments**
This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to

hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
Do not use a solid water stream as it may scatter and spread fire.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
Combustible material. Dust may form explosive mixture in air.

**Hazardous combustion products**
Thermal decomposition can lead to release of irritating gases and vapors Carbon oxides (COx), Silicon oxide.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**
Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Take precautionary measures against static discharges. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits. Take precautionary measures against static discharges.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from open flames, hot surfaces and sources of ignition Protect from moisture Avoid contact with: Oxidizing agents

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Cellulose | 10 mg/m³ TWA | 10mg/m³TWAinhalable dust | Not determined |
| Crystalline silica (impurity) | 0.1 mg/m³ TWA | 0.05mg/m³TWArespirable dust | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Cellulose | Not determined | 10 mg/m³ TWA | Not determined |
| Crystalline silica (impurity) | Not determined | 0.025 mg/m³ TWA | 0.03 mg/m³ OEL |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Cellulose | 10 mg/m³ MAC | Not determined | 10 mg/m³ TWA |

| | | | |
|---|---|---|---|
| Crystalline silica (impurity) | 1 mg/m³ MAC | 0.1 mg/m³ TWA | 0.05 mg/m³ TWA<br>Confirmed carcinogen |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Cellulose | 10 mg/m³ TWA | Not determined | 10 mg/m³ MAC |
| Crystalline silica (impurity) | 0.1 mg/m³ TWA | Not determined | 1 mg/m³ TWA<br>3 mg/m³ MAC<br>Fibrogenic substance glass;in the form of disintegration aerosol;limit is for total mass of aerosols 1153<br>Fibrogenic substance containing >70% Silicon dioxide in dust;limit is for total mass of aerosols 1154 |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Cellulose | Not determined | 10 mg/m³ TWA<br>5 mg/m³ TWA<br>20 mg/m³ STEL | Not determined |
| Crystalline silica (impurity) | 0.025 mg/m³ TWA | Not determined | Not determined |

## 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Provide appropriate exhaust ventilation at places where dust is formed

**Personal protective equipment**

**Eye protection** — Use eye protection according to EN 166, designed to protect against dusts Tightly fitting safety goggles Safety glasses with side-shields

**Hand protection** — Wear gloves according to EN 374 to protect against skin effects from powders Repeated or prolonged contact Use protective gloves made of: Nitrile Neoprene Frequent change is advisable

**Respiratory protection** — No personal respiratory protective equipment normally required In case of insufficient ventilation wear suitable respiratory equipment Suitable mask with particle filter P3 (European Norm 143) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection** — Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** — Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

### 8.2.3 Environmental exposure controls

**Environmental exposure** — Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Solid |
| **Appearance** | Powder - Granules |
| **Color** | Yellow - Red brown |
| **Odor** | No information available |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | No information available | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | No information available | |
| **Boiling point/range** | No information available | |
| **Flash point** | Not applicable | |
| **Evaporation rate** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | No information available | |
| **Bulk density** | 25 - 45 lb/ft3 | |
| **Water solubility** | Insoluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | No information available | |
| **Explosive properties** | Suspended dust may present a dust explosion hazard | |
| **Oxidizing properties** | No information available | |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

Combustible material. Dust may form explosive mixture in air.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid dust formation. Protect from moisture. Take precautionary measures against static charges. Keep away from open flames, hot surfaces and sources of ignition.

### 10.5 Incompatible materials

Oxidizing agents.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Product information** This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis.

**Inhalation** Inhalation of dust in high concentration may cause irritation of respiratory system.

**Eye contact** Dust may cause mechanical irritation.

**Skin contact** Prolonged contact may cause redness and irritation.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Cellulose | > 5 g/kg ( Rat ) | > 2000 mg/kg ( Rabbit ) | > 5800 mg/m³ ( Rat ) 4 h |
| Crystalline silica (impurity) | No data available | No data available | No data available |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation.

**Routes of entry** Inhalation.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Cellulose | No information available | No information available | No information available |
| Crystalline silica (impurity) | LC50 Danio rerio (zebra fish) : > 10000 mg/l 96h | EC50: > 1000 mg/l 72h | LC50 Daphnia manga (Water flea): > 10000 mg/l 24h |

### 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Crystalline silica (impurity) | Inorganic compound |

### 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Crystalline silica (impurity) | Product/Substance is inorganic |

### 12.4 Mobility

**Mobility**
Insoluble in water. See component information below.

| Chemical Name | Mobility |
|---|---|
| Crystalline silica (impurity) | Insoluble in water |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| Crystalline silica (impurity) | Not expected to adsorb on soil |

**12.5 Other adverse effects**

None known.

**12.6 Other information.**

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**
**ADR/RID/ADN/ADG Hazard class** Not regulated
**IMDG/ANTAQ Hazard class** Not regulated
**ICAO/ANAC Hazard class/division** Not regulated

**14.4 Packing group**
**ADR/RID/ADN/ADG Packing group** Not regulated
**IMDG/ANTAQ Packing group** Not regulated
**ICAO/ANAC Packing group** Not regulated

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Does not comply |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

This SDS is not for use in the European Union (EU).

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Poh Yue Cheong |
| **Revision date** | 09/Oct/2023 |
| **Version** | 1 |
| **This SDS has been revised in the following section(s)** | New issue. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 3* |
| Flammability | 1 |
| Physical hazard | 0 |

| | |
|---|---|
| PPE | X |

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**The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.**
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**SDS no.** D174
**Version** 8
**Revision date** 02-Nov-2022
**Supersedes Date:** 20-Jun-2018

# Safety Data Sheet
## Expanding Cement Additive D174

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Expanding Cement Additive D174
**Product code** D174

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards**

| | |
|---|---|
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 1 |
| Specific target organ toxicity - Single exposure | Category 3 |

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
DANGER

**Hazard Statements**
H315 - Causes skin irritation
H318 - Causes serious eye damage
H335 - May cause respiratory irritation

**Precautionary statements**
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves and eye/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician

**Supplementary precautionary statements**
P264 - Wash face, hands and any exposed skin thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 + P364 - Take off contaminated clothing and wash it before reuse
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Contains**
Calcium magnesium oxide

### 2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria
The product reacts with water and will generate heat.

### Australian statement of hazardous/dangerous nature
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

### 3.1 Substances

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Calcium magnesium oxide | 253-425-0 | 37247-91-9 | 60-100 |

### 3.2 Mixtures

Not applicable

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation persists.

**Eye Contact** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. Get immediate medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Alcohol Foam, $CO_2$, Dry Chemical.

**Extinguishing media which must not be used for safety reasons**
Water.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
The product reacts with water and will generate heat.

**Hazardous combustion products**
Thermal decomposition can lead to release of irritating gases and vapors

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8. Avoid dust formation. Avoid breathing dust; if exposed to high dust concentration, leave area immediately.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading.

**Methods for cleaning up**
Avoid generating or breathing dust. Take up mechanically and collect in suitable container for disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing Do not eat, drink or smoke when using this product

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. Keep airborne concentrations below exposure limits. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Protect from moisture Keep away from open flames, hot surfaces and sources of ignition Store away from incompatibles, Water Aluminum Strong oxidizing agents Strong acids Strong bases |
| **Storage class** | Chemical storage. |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure Controls/Personal Protection

## 8.1 Control parameters

**Exposure limits** OEL = 1 mg/m³ (8-h TWA, respirable dust); STEL = 4 mg/m³ (15 min);proposal based on read-across from CaO and Ca(OH)2 according to SCOEL/SUM/137 February 2008

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Calcium magnesium oxide | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Calcium magnesium oxide | Not determined | Not determined | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Calcium magnesium oxide | Not determined | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Calcium magnesium oxide | Not determined | Not determined | Not determined |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Calcium magnesium oxide | Not determined | Not determined | Not determined |

## 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Provide appropriate exhaust ventilation at places where dust is formed

**Personal protective equipment**

**Eye protection** Use eye protection according to EN 166, designed to protect against dusts Safety glasses with side-shields Tightly fitting safety goggles Do not wear contact lenses.

**Hand protection** Wear gloves according to EN 374 to protect against skin effects from powders
Impervious gloves made of: PVC Neoprene Rubber
Frequent change is advisable

**Respiratory protection** In case of insufficient ventilation wear suitable respiratory equipment Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust) Effective dust mask. Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection** Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use

### 8.2.3 Environmental exposure controls

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Physical state** | Solid |
| **Appearance** | Powder |
| **Odor** | Odorless |
| **Color** | Beige |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | Not applicable | |
| **pH @ dilution** | 12.4 | Saturated solution |
| **Melting / freezing point** | > 450 °C / 842 °F | |
| **Boiling point/range** | No information available | |
| **Flash point** | Non-flammable | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | 3.41 | @ 20 °C |
| **Bulk density** | No information available | |
| **Water solubility** | 1385.2 mg/l | @ 20 °C |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | > 400 °C / 752 °F | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | No information available | |

| | |
|---|---|
| **Explosive properties** | None known |
| **Oxidizing properties** | None |

### 9.2 Other information

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

Exothermic reaction with:. Acids. Water.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid dust formation. Protect from moisture. Keep away from open flames, hot surfaces and sources of ignition.

### 10.5 Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases. Water. Aluminum.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** May cause irritation of respiratory tract.

**Eye contact** Causes serious eye damage. May cause irreversible damage to eyes.

**Skin contact** Causes skin irritation.

**Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Calcium magnesium oxide | 2000 mg/kg bw (Rat)<br>OECD 402 | No data available | No data available |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Skin contact. Eye contact. Inhalation.

**Routes of entry** Inhalation. Eye contact. Skin contact.

**Specific target organ toxicity - Single exposure** Category 3

**Specific target organ toxicity - Repeated exposure** Not classified.

**Target organ effects** Respiratory system.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Large amounts will affect pH and harm aquatic organisms

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Calcium magnesium oxide | LC50 for freshwater fish: 50.6 mg/L<br>LC50 for marine water fish: 457 mg/L | EC50/LC50 for freshwater algae: 184.57 mg/L<br>EC10/LC10 or NOEC for freshwater algae: 48 mg/L | EC50/LC50 for freshwater invertebrates: 49.1 mg/L<br>EC50/LC50 for marine water invertebrates: 158 mg/L |

### 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Calcium magnesium oxide | Inorganic compound |

### 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Calcium magnesium oxide | Product/Substance is inorganic |

### 12.4 Mobility

**Mobility**
Dispersible.

**Mobility in soil**
No information available.

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

**14.1. UN number**

**UN No. (IMDG/ANTAQ)** Not regulated
**UN No. (ICAO/ANAC)** UN1910

**14.2. UN proper shipping name**
Calcium Oxide (regulated only if transported by aircraft)

**14.3 Hazard class(es)**
**ADR/RID/ADN/ADG Hazard class** Not regulated
**IMDG/ANTAQ Hazard class** Not regulated
**ICAO/ANAC Hazard class/division** 8

**14.4 Packing group**
**ADR/RID/ADN/ADG Packing group** Not regulated
**IMDG/ANTAQ Packing group** Not regulated
**ICAO/ANAC Packing group** III

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

| | |
|---|---|
| **New Zealand Hazard Classification** | Additives, Process Chemicals and Raw Materials (Subsidiary Hazard) Group Standard 2020 |
| **HSNO approval no.** | HSR002503 |
| **Group number** | 6.3A, 8.3A, 6.1E |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam |
| **Supersedes Date:** | 20-Jun-2018 |
| **Revision date** | 02-Nov-2022 |
| **Version** | 8 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories

National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 3 |
| Flammability | 0 |
| Physical hazard | 1 |
| PPE | X |

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**SDS no.** F103
**Version** 4
**Revision date** 02-Mar-2022
**Supersedes Date:** 13-Apr-2017

# Safety Data Sheet
## EZEFLO* F103 Surfactant

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** EZEFLO* F103 Surfactant
**Product code** F103

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Surfactant in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards**

| | |
|---|---|
| Acute toxicity - Oral | Category 4 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 1 |
| Specific target organ toxicity - Single exposure | Category 3 |

**Environmental hazards** Not classified

**Physical Hazards**

| | |
|---|---|
| Flammable Liquids | Category 3 |

## 2.2 Label elements

**Signal word**
DANGER

**Hazard Statements**
H302 - Harmful if swallowed
H315 - Causes skin irritation
H318 - Causes serious eye damage
H336 - May cause drowsiness or dizziness
H226 - Flammable liquid and vapor

**Precautionary statements**
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P370 + P378 - In case of fire: Use dry chemical, CO2, water spray or regular foam to extinguish

**Supplementary precautionary statements**
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical/ ventilating/ lighting/ equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P330 - Rinse mouth
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 + P364 - Take off contaminated clothing and wash it before reuse
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P403 + P235 - Store in a well-ventilated place. Keep cool
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Contains**
Propan-2-ol

2-butoxyethanol

Ethoxylated C11 Alcohol

Ethoxylated Alcohol

1-undecanol (impurity)

## 2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

## 3. Composition/information on Ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Propan-2-ol | 200-661-7 | 67-63-0 | 10 - 30 |
| 2-butoxyethanol | 203-905-0 | 111-76-2 | 10 - 30 |
| Ethoxylated C11 Alcohol | - | 34398-01-1 | 10-30 |
| Ethoxylated Alcohol | - | 68131-39-5 | 5-10 |
| 1-undecanol (impurity) | 203-970-5 | 112-42-5 | 1-<3 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification.

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** Move the exposed person to fresh air at once. If breathing is difficult, (trained personnel should) give oxygen. If breathing has stopped, begin artificial respiration. Seek medical attention at once.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation persists.

**Eye Contact** Immediately flush eyes with water for 15 minutes while holding eyelids open. Seek medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
P370 + P378 - In case of fire: Use dry chemical, CO2, water spray or regular foam to extinguish.

**Extinguishing media which must not be used for safety reasons**
Do not use a solid water stream as it may scatter and spread fire.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
FLAMMABLE LIQUID AND VAPOR. Vapors are heavier than air and may spread along floors. Vapors may travel considerable distance to source of ignition and flash back. Heating of containers may cause pressure rise, with risk of bursting.

**Hazardous combustion products**
When heated strongly or burned, oxides of carbon and harmful organic chemical fumes are released

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

**Hazchem code ADG** •3Y

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Take precautionary measures against static discharges. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. Ground and bond containers when transferring material. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits. Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. Ensure all equipment is electrically grounded before beginning transfer operations.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from direct sunlight. Keep away from open flames, hot surfaces and sources of ignition Protect from freezing Store above 0°C Store away from incompatibles, Strong oxidizing agents Strong bases Aluminum

**Storage class** Flammable liquid storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Propan-2-ol | 500 ppm STEL<br>1230 mg/m³ STEL<br>400 ppm TWA<br>983 mg/m³ TWA | 500ppmSTEL<br>1230mg/m³STEL<br>400ppmTWA<br>983mg/m³TWA | 500 ppm STEL<br>1230 mg/m³ STEL<br>400 ppm TWA<br>983 mg/m³ TWA |
| 2-butoxyethanol | 25 ppm TWA<br>121 mg/m³ TWA | 50ppmSTEL<br>242mg/m³STEL<br>20ppmTWA<br>96.9mg/m³TWA | Not determined |
| Ethoxylated C11 Alcohol | Not determined | Not determined | Not determined |
| Ethoxylated Alcohol | Not determined | Not determined | Not determined |
| 1-undecanol (impurity) | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Propan-2-ol | Not determined | 400 ppm TWA<br>983 mg/m³ TWA<br>500 ppm STEL<br>1230 mg/m³ STEL | 400 ppm Ceiling<br>980 mg/m³ Ceiling<br>200 ppm ACL |
| 2-butoxyethanol | Not determined | 20 ppm TWA | 20 ppm Ceiling<br>97 mg/m³ Ceiling<br>May cause substantial skin absorption<br>25 ppm ACL |
| Ethoxylated C11 Alcohol | Not determined | Not determined | Not determined |
| Ethoxylated Alcohol | Not determined | Not determined | Not determined |
| 1-undecanol (impurity) | Not determined | Not determined | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |

| | | | |
|---|---|---|---|
| Propan-2-ol | Not determined | 980 mg/m³ TWA<br>100 ppm TWA<br>1225 mg/m³ STEL<br>500 ppm STEL | 500 ppm STEL<br>1230 mg/m³ STEL<br>400 ppm TWA<br>983 mg/m³ TWA |
| 2-butoxyethanol | 5 mg/m³ MAC | Not determined | 25 ppm TWA<br>121 mg/m³ TWA<br>Possibility of significant uptake through the skin*1) |
| Ethoxylated C11 Alcohol | Not determined | Not determined | Not determined |
| Ethoxylated Alcohol | Not determined | Not determined | Not determined |
| 1-undecanol (impurity) | Not determined | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Propan-2-ol | 400 ppm TWA<br>983 mg/m³ TWA | 400 ppm TWA<br>980 mg/m³ TWA | 10 mg/m³ TWA<br>50 mg/m³ MAC |
| 2-butoxyethanol | 20 ppm TWA<br>96.7 mg/m³ TWA<br>Skin notation*3) | skin - potential for cutaneous absorption<br>50 ppm TWA<br>240 mg/m³ TWA | 5 mg/m³ MAC |
| Ethoxylated C11 Alcohol | Not determined | Not determined | Not determined |
| Ethoxylated Alcohol | Not determined | Not determined | Not determined |
| 1-undecanol (impurity) | Not determined | Not determined | Not determined |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Propan-2-ol | 400 ppm TWA | Not determined | Not determined |
| 2-butoxyethanol | 50 ppm TWA | Not determined | 50 ppm STEL<br>246 mg/m³ STEL<br>Skin*2)<br>20 ppm TWA<br>98 mg/m³ TWA |
| Ethoxylated C11 Alcohol | Not determined | Not determined | Not determined |
| Ethoxylated Alcohol | Not determined | Not determined | Not determined |
| 1-undecanol (impurity) | Not determined | Not determined | Not determined |

**Notes**
No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

**Eye protection**
Use eye protection according to EN 166, designed to protect against liquid splashes
Chemical splash goggles and/or face shield

**Hand protection**
Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training
Use protective gloves made of: PVC polyvinyl alcohol or nitrile-butyl rubber gloves
Break through time >480 minutes
Glove thickness 0.4 mm
Be aware that liquid may penetrate the gloves. Frequent change is advisable.

**Respiratory protection**
In case of insufficient ventilation wear suitable respiratory equipment Respirator with a vapor filter (EN 141) Use respirator with organic vapor/acid gas protection (E, yellow) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection**
Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls**

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Aqueous solution |
| **Odor** | Alcohol |
| **Color** | Clear |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | 5 | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | - 40 °C / - 40 °F | |
| **Boiling point/range** | 88 °C / 190 °F | |
| **Flash point** | 32 °C / 90 °F | PMCC |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | 12.7% | |
| **Lower explosion limit** | 2% | |
| **Vapor pressure** | 3.4 kPa | @ 25 °C |
| **Relative Vapor Density** | >1 (air = 1) | |
| **Specific gravity** | 0.925 - 0.96 | |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | 5.63 mm2/s | @ 40 °C |
| **Dynamic viscosity** | No information available | |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | No information available | |

**Explosive properties** Vapours may form explosive mixtures with air
**Oxidizing properties** None known.

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

FLAMMABLE LIQUID AND VAPOR.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid heat, flames and other sources of ignition. Keep away from direct sunlight. Protect from freezing. Store above 0°C.

### 10.5 Incompatible materials

Strong oxidizing agents. Strong bases. Aluminum.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** Vapors may irritate throat and respiratory system. May cause drowsiness or dizziness. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.

**Eye contact** Causes serious eye damage.

**Skin contact** Causes skin irritation. May be absorbed through the skin in harmful amounts.

**Ingestion** Harmful if swallowed. May cause additional affects as listed under "Inhalation".

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Propan-2-ol | = 1870 mg/kg ( Rat ) | = 4059 mg/kg ( Rabbit ) | > 10000 ppm ( Rat ) 6 h |
| 2-butoxyethanol | 1200 mg/kg (Guinea pigs) | > 2000 mg/kg (Rat) | 400 ppm ( Rabbit) |
| Ethoxylated C11 Alcohol | No data available | No data available | No data available |
| Ethoxylated Alcohol | = 1600 mg/kg ( Rat ) | = 2500 mg/kg ( Rabbit ) | No data available |
| 1-undecanol (impurity) | = 3 g/kg ( Rat ) | > 5 g/kg ( Rabbit ) | > 700 mg/m³ ( Rat ) 6 h<br>> 0.58 mg/L ( Rat ) 4 h |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation. Skin contact. Eye contact. Ingestion.

**Routes of entry** Inhalation. Eye contact. Skin contact. Ingestion. Skin absorption.

**Specific target organ toxicity - Single exposure** Category 3

**Specific target organ toxicity - Repeated exposure** Not classified.

**Neurological effects** Central nervous system depressant.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Large amounts will affect pH and harm aquatic organisms

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Propan-2-ol | = 9640 mg/L LC50 Pimephales promelas 96 h<br>= 11130 mg/L LC50 Pimephales promelas 96 h<br>> 1400000 µg/L LC50 Lepomis macrochirus 96 h | > 1000 mg/L EC50 Desmodesmus subspicatus 96 h<br>> 1000 mg/L EC50 Desmodesmus subspicatus 72 h | = 13299 mg/L EC50 Daphnia magna 48 h |
| 2-butoxyethanol | = 1490 mg/L LC50 Lepomis macrochirus 96 h<br>= 2950 mg/L LC50 Lepomis macrochirus 96 h | No information available | = 1698 - 1940 mg/L (LC50; Daphnia magna)<br>= 1720 mg/L (EC50; water flea) |
| Ethoxylated C11 Alcohol | No information available | No information available | No information available |
| Ethoxylated Alcohol | No information available | No information available | No information available |
| 1-undecanol (impurity) | = 1.04 mg/L LC50 Pimephales promelas 96 h<br>3.6 - 5.1 mg/L LC50 Lepomis macrochirus 96 h<br>4.78 - 8.85 mg/L LC50 Oncorhynchus mykiss 96 h | = 2.7 mg/L EC50 Pseudokirchneriella subcapitata 96 h | = 8.5 mg/L EC50 Daphnia magna 48 h<br>4.78 - 8.87 mg/L EC50 Daphnia magna 48 h<br>= 320 mg/L EC50 Daphnia magna 48 h |

### 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Propan-2-ol | Readily biodegradable |
| 2-butoxyethanol | Readily biodegradable |

### 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Propan-2-ol | No bioaccumulation potential |
| 2-butoxyethanol | Not likely to bioaccumulate |

### 12.4 Mobility

**Mobility**
See component information below.

| Chemical Name | Mobility |
|---|---|
| Propan-2-ol | Soluble in water |
| 2-butoxyethanol | Soluble in water |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| Propan-2-ol | No information available |
| 2-butoxyethanol | No information available |

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Do not burn, or use a cutting torch on, the empty drum. Empty containers may contain flammable or explosive vapors. Dispose of contents/container to an approved waste disposal plant.

## 14. Transport information

### 14.1. UN number

**UN/ID No. (ADR/RID/ADN/ADG)** UN1993
**UN No. (IMDG/ANTAQ)** UN1993
**UN No. (ICAO/ANAC)** UN1993

**14.2. UN proper shipping name**
FLAMMABLE LIQUID, N.O.S. (contains Isopropanol)

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | 3 |
| **IMDG/ANTAQ Hazard class** | 3 |
| **ICAO/ANAC Hazard class/division** | 3 |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | III |
| **IMDG/ANTAQ Packing group** | III |
| **ICAO/ANAC Packing group** | III |

**14.5 Environmental hazard**

**Marine pollutant**
No

**14.6 Special precautions**

| | |
|---|---|
| **Hazard identification no (ADR)** | 30 |
| **EmS (IMDG)** | F-E, S-E |
| **Emergency Action Code (EAC)** | •3Y |
| **Tunnel restriction code** | D/E |
| **Hazchem code ADG** | •3Y |

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

2-butoxyethanol
Schedule 6

| | |
|---|---|
| **New Zealand Hazard Classification** | Classified |
| **HSNO approval no.** | HSR002495 - Additives, Process Chemicals and Raw Materials (Flammable) Group Standard 2020 |
| **Group number** | 3.1C, 6.1D, 6.3A, 6.9B, 8.3A |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**ADG Code – Australian Dangerous Goods Code**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Does not comply |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam |
| **Supersedes Date:** | 13-Apr-2017 |
| **Revision date** | 02-Mar-2022 |
| **Version** | 4 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 3 |
| Flammability | 3 |
| Physical hazard | 0 |
| PPE | X |

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# Safety Data Sheet

## EZEFLO* F110 Surfactant

**Revision date** 02-Apr-2024 **Supersedes Date:** 16-Oct-2019 **Version** 6

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** EZEFLO* F110 Surfactant
**Product code** F110

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Surfactant in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards**

| | |
|---|---|
| Acute toxicity - Oral | Category 3 |
| Acute toxicity - Dermal | Category 3 |
| Acute toxicity - Inhalation (Vapors) | Category 3 |
| Serious eye damage/eye irritation | Category 1 |
| Specific target organ toxicity - Single exposure | Category 1 |

**Environmental hazards**

| | |
|---|---|
| Chronic aquatic toxicity | Category 3 |

**Physical Hazards**

| | |
|---|---|
| Flammable Liquids | Category 3 |

## 2.2 Label elements

**Signal word**
DANGER

**Hazard Statements**
H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H318 - Causes serious eye damage
H331 - Toxic if inhaled
H370 - Causes damage to organs
H412 - Harmful to aquatic life with long lasting effects
H226 - Flammable liquid and vapor

**Precautionary statements**
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor

**Supplementary precautionary statements**
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical/ ventilating/ lighting/ equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P273 - Avoid release to the environment
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P330 - Rinse mouth
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
P403 + P235 - Store in a well-ventilated place. Keep cool
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Contains**
Methanol

Ethoxylated C11 Alcohol

Alcohol, C9-C11, Ethoxylated

## 2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

## 3. Composition/information on Ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Methanol | 200-659-6 | 67-56-1 | 10-30 |
| Ethoxylated C11 Alcohol | Polymer | 34398-01-1 | 10-30 |
| Alcohol, C9-C11, Ethoxylated | Polymer | 68439-46-3 | 10-30 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification.

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** Move the exposed person to fresh air at once. If breathing is difficult, (trained personnel should) give oxygen. If breathing has stopped, begin artificial respiration. Seek medical attention at once.

**Ingestion** Do NOT induce vomiting. Get immediate medical attention. Rinse mouth. Risk of product entering the lungs on vomiting after ingestion. Never give anything by mouth to an unconscious person.

**Skin contact** Promptly wash contaminated skin with soap or mild detergent and water. Promptly remove clothing if soaked through and wash as above. Burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Chemical burns must be treated by a physician.

**Eye Contact** Remove contact lenses, if worn. Immediately flush eyes with water for 15 minutes while holding eyelids open. Seek medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

**General advice** Seek medical attention for all burns, regardless how minor they may seem. The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
P378 - Use dry sand, dry chemical or alcohol-resistant foam for extinction.

**Extinguishing media which must not be used for safety reasons**
Do not use a solid water stream as it may scatter and spread fire.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
FLAMMABLE LIQUID AND VAPOR. Vapors are heavier than air and may spread along floors. Vapors may travel considerable distance to source of ignition and flash back.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx), Nitrogen oxides (NOx), Harmful organic chemical fumes.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

**Hazchem code ADG** •3W

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Do not get on skin or clothing. Wash thoroughly after handling. Do not breathe vapors or spray mist. Use personal protective equipment. Remove all sources of ignition. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Take precautionary measures against static discharges. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. Ground and bond containers when transferring material. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Do not get in eyes, on skin or on clothing. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits. Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. Ensure all equipment is electrically grounded before beginning transfer operations.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from open flames, hot surfaces and sources of ignition Avoid contact with: Oxidizing agents Strong bases

**Storage class** Toxic storage. Flammable liquid storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Methanol | 250 ppm STEL<br>328 mg/m³ STEL<br>200 ppm TWA<br>262 mg/m³ TWA | 250ppmSTEL<br>328mg/m³STEL<br>200ppmTWA<br>262mg/m³TWA | 250 ppm STEL<br>325 mg/m³ STEL<br>Skin designation<br>200 ppm TWA<br>260 mg/m³ TWA |
| Ethoxylated C11 Alcohol | Not determined | Not determined | Not determined |
| Alcohol, C9-C11, Ethoxylated | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |

| | | | |
|---|---|---|---|
| Methanol | 250 ppm STEL<br>310 mg/m³ STEL<br>200 ppm TWA<br>260 mg/m³ TWA | 200 ppm TWA<br>Skin notation<br>250 ppm STEL | May cause substantial skin absorption<br>200 ppm ACL<br>200 ppm OEL<br>260 mg/m³ OEL |
| Ethoxylated C11 Alcohol | Not determined | Not determined | Not determined |
| Alcohol, C9-C11, Ethoxylated | Not determined | Not determined | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Methanol | Not determined | 260 mg/m³ TWA<br>200 ppm TWA<br>Skin notation<br>325 mg/m³ STEL<br>250 ppm STEL | 250 ppm STEL<br>328 mg/m³ STEL<br>200 ppm TWA<br>262 mg/m³ TWA<br>Possibility of significant uptake through the skin |
| Ethoxylated C11 Alcohol | Not determined | Not determined | Not determined |
| Alcohol, C9-C11, Ethoxylated | Not determined | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Methanol | 200 ppm TWA<br>262 mg/m³ TWA | 200 ppm TWA<br>260 mg/m³ TWA | 5 mg/m³ TWA<br>15 mg/m³ MAC<br>Skin |
| Ethoxylated C11 Alcohol | Not determined | Not determined | Not determined |
| Alcohol, C9-C11, Ethoxylated | Not determined | Not determined | Not determined |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Methanol | Not determined | 50 mg/m³ TWA<br>100 mg/m³ STEL | Skin<br>200 ppm TWA<br>260 mg/m³ TWA |
| Ethoxylated C11 Alcohol | Not determined | Not determined | Not determined |
| Alcohol, C9-C11, Ethoxylated | Not determined | Not determined | Not determined |

**Notes**
No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Provide mechanical general and/or local exhaust ventilation to prevent release of vapor or mist into work environment.

**Personal protective equipment**

**Eye protection**
Use eye protection according to EN 166, designed to protect against liquid splashes Wear chemical splash goggles and face shield

**Hand protection**
Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training
Impervious gloves made of: Butyl rubber
Be aware that liquid may penetrate the gloves. Frequent change is advisable.

**Respiratory protection**
Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators Respirator with a vapor filter (EN 141) Use respirator with organic vapor protection (A, brown) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection**
Wear appropriate personal protective clothing to prevent skin contact Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls**

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Clear |
| **Color** | Colorless |
| **Odor** | Alcohol |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | 7 | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | No information available | |
| **Boiling point/range** | No information available | |
| **Flash point** | 28 °C / 82.4 °F | PMCC |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | 12.07 kPa | @ 23.3 °C |
| **Relative Vapor Density** | >1 (air = 1) | |
| **Specific gravity** | No information available | |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | > 232 °C / 450 °F | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | ~ 5 mPa s | |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | 0.925 - 0.966 g/ml @ 15.56°C | |

**Explosive properties** Vapours may form explosive mixtures with air
**Oxidizing properties** None known.

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |

**VOC content(%)** No information available

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

Flammable liquid and vapor. Corrosive.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid heat, flames and other sources of ignition. Take precautionary measures against static charges.

### 10.5 Incompatible materials

Oxidizing agents. Strong bases.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

| | |
|---|---|
| **Product information** | Methanol is more toxic to humans and primates than to most experimental animals, due to differences in how it is metabolized. Non-primates do not appear to experience the acidosis or vision effects observed in humans and primates. |
| **Inhalation** | Toxic by inhalation. Vapors inhaled in high concentration have a narcotic effect on the central nervous system. Inhaled corrosive substances can lead to a toxic edema of the lungs. |
| **Eye contact** | Causes serious eye damage. May cause irreversible damage to eyes. |
| **Skin contact** | Toxic in contact with skin. Components of the product may be absorbed into the body through the skin. |
| **Ingestion** | Toxic if swallowed. MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED. |
| **Unknown acute toxicity** | Not Applicable. |

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Methanol | = 6200 mg/kg ( Rat ) | = 15840 mg/kg ( Rabbit ) | = 22500 ppm ( Rat ) 8 h |
| Ethoxylated C11 Alcohol | No data available | No data available | No data available |
| Alcohol, C9-C11, Ethoxylated | = 1400 mg/kg (Rat)<br>= 1378 mg/kg (Rat) | > 2 g/kg (Rabbit) | No data available |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation. Skin contact. Ingestion. Eye contact.

**Routes of entry** Ingestion. Inhalation. Skin absorption.

**Specific target organ toxicity - Single exposure** Category 1

**Specific target organ toxicity - Repeated exposure** Not classified.

**Target organ effects** Central nervous system.

**Aspiration hazard** Not Applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

Harmful to aquatic life with long lasting effects

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Methanol | = 28200 mg/L LC50 Pimephales promelas 96 h<br>> 100 mg/L LC50 Pimephales promelas 96 h<br>19500 - 20700 mg/L LC50 Oncorhynchus mykiss 96 h | EC50= 22000 mg/l - Duration h: 96 - Notes: Literature data. | EC50> 10000 mg/l - Duration h: 48 - Notes: Literature data. |

| | | | |
|---|---|---|---|
| | 18 - 20 mL/L LC50 Oncorhynchus mykiss 96 h<br>13500 - 17600 mg/L LC50 Lepomis macrochirus 96 h | | |
| Ethoxylated C11 Alcohol | No information available | = 3.4 mg/L (EC50; Skeletonema costatum)= 72h | No information available |
| Alcohol, C9-C11, Ethoxylated | No information available | No information available | No information available |

### 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Ethoxylated C11 Alcohol | No information available |
| Alcohol, C9-C11, Ethoxylated | Rapidly biodegradable |

### 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Ethoxylated C11 Alcohol | No information available |
| Alcohol, C9-C11, Ethoxylated | Not likely to bioaccumulate |

### 12.4 Mobility

**Mobility**
Soluble in water. See component information below.

| Chemical Name | Mobility |
|---|---|
| Ethoxylated C11 Alcohol | No information available |
| Alcohol, C9-C11, Ethoxylated | Miscible in water |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| Ethoxylated C11 Alcohol | No data available |

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Do not burn, or use a cutting torch on, the empty drum. Empty containers may contain flammable or explosive vapors. Empty containers should be taken for local recycling,

recovery or waste disposal.

## 14. Transport information

**14.1. UN number**

| | |
|---|---|
| **UN/ID No. (ADR/RID/ADN/ADG)** | UN1992 |
| **UN No. (IMDG/ANTAQ)** | UN1992 |
| **UN No. (ICAO/ANAC)** | UN1992 |

**14.2. UN proper shipping name**

FLAMMABLE LIQUID, TOXIC, N.O.S. (contains methanol),

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | 3 (6.1) |
| **IMDG/ANTAQ Hazard class** | 3 (6.1) |
| **ICAO/ANAC Hazard class/division** | 3 (6.1) |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | III |
| **IMDG/ANTAQ Packing group** | III |
| **ICAO/ANAC Packing group** | III |

**14.5 Environmental hazard**

No

**14.6 Special precautions**

| | |
|---|---|
| **Hazard identification no (ADR)** | 36 |
| **EmS (IMDG)** | F-E, S-D |
| **Emergency Action Code (EAC)** | •3W |
| **Tunnel restriction code** | (D/E) |
| **Hazchem code ADG** | •3W |

**14.7 Maritime transport in bulk according to IMO instruments**

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

Methanol
Schedule 6
Schedule 5

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**ADG Code – Australian Dangerous Goods Code**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam |
| **Supersedes Date:** | 16-Oct-2019 |
| **Revision date** | 02-Apr-2024 |
| **Version** | 6 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 3 |
| Flammability | 3 |
| Physical hazard | 0 |
| PPE | X |

**Disclaimer**

**The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.**

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**SDS no.** D620
**Version** 4
**Revision date** 17-Aug-2023
**Supersedes Date:** 29-Sep-2020

# Safety Data Sheet
## GASBLOK* Gas Migration Control Additive D620

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** GASBLOK* Gas Migration Control Additive D620
**Product code** D620

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards**

| | |
|---|---|
| Skin sensitization | Category 1A |

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
WARNING

**Hazard Statements**
H317 - May cause an allergic skin reaction

**Precautionary statements**
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Supplementary precautionary statements**
P362 + P364 - Take off contaminated clothing and wash it before reuse

**Contains**
Propane-1,2-diol

2-methyl-2h-isothiazol-3-one

### 2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

### Australian statement of hazardous/dangerous nature
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Propane-1,2-diol | 200-338-0 | 57-55-6 | 1-5 |
| 2-methyl-2h-isothiazol-3-one | 220-239-6 | 2682-20-4 | >0.0015 - <0.01 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification.

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

| | |
|---|---|
| **Ingestion** | Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur. |
| **Skin contact** | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if symptoms occur. |
| **Eye Contact** | Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues. |

### 4.2. Most important symptoms and effects, both acute and delayed

| | |
|---|---|
| **General advice** | The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible. |
| **Symptoms** | |
| **Inhalation** | Please see Section 11. Toxicological Information for further information. |
| **Ingestion** | Please see Section 11. Toxicological Information for further information. |
| **Skin contact** | Please see Section 11. Toxicological Information for further information. |
| **Eye contact** | Please see Section 11. Toxicological Information for further information. |

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use water spray, fog, Carbon dioxide ($CO_2$), foam or dry chemical.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
When heated strongly or burned, oxides of carbon and harmful organic chemical fumes are released

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Take precautionary measures against static discharges. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use. Persons susceptible to allergic reactions should not handle this product.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits. Take precautionary measures against static discharges.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Keep at (23°F - 122°F) -5°C - 50°C Keep away from open flames, hot surfaces and sources of ignition Avoid contact with: Strong oxidizing agents Strong acids Strong bases

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Propane-1,2-diol | Not determined | 150ppmTWAtotal vapour and particulates 474mg/m³TWAtotal vapour and | Not determined |

| | | | |
|---|---|---|---|
| | | particulates 10mg/m³TWAparticulates only | |
| 2-methyl-2h-isothiazol-3-one | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Propane-1,2-diol | Not determined | Not determined | Not determined |
| 2-methyl-2h-isothiazol-3-one | Not determined | Not determined | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Propane-1,2-diol | 7 mg/m³ MAC | Not determined | 150 ppm TWA<br>474 mg/m³ TWA<br>10 mg/m³ TWA |
| 2-methyl-2h-isothiazol-3-one | Not determined | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Propane-1,2-diol | Not determined | Not determined | 7 mg/m³ MAC |
| 2-methyl-2h-isothiazol-3-one | Not determined | Not determined | Not determined |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Propane-1,2-diol | Not determined | Not determined | Not determined |
| 2-methyl-2h-isothiazol-3-one | Not determined | Not determined | Not determined |

**Notes**
No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Keep airborne concentrations below exposure limits

**Personal protective equipment**

**Eye protection**
Use eye protection according to EN 166, designed to protect against liquid splashes Safety glasses with side-shields Tightly fitting safety goggles

**Hand protection**
Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training
Use protective gloves made of: Neoprene Rubber Nitrile
Break through time >480 minutes
Glove thickness >0.4 mm
Be aware that liquid may penetrate the gloves. Frequent change is advisable.

**Respiratory protection**
In case of insufficient ventilation wear suitable respiratory equipment Respirator with a vapor filter (EN 141) Use respirator with organic vapor protection (A, brown) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection**
Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures**
Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls**

**Environmental exposure**
Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Opaque |
| **Color** | Milky white |
| **Odor** | Characteristic |

| Property | Values | Remarks |
|---|---|---|
| **pH** | 7 - 9 | @ 23°C (TM 0102) |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | No information available | |
| **Boiling point/range** | 98 °C / 208 °F | |
| **Flash point** | > 98 °C / > 208 °F | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | 23.28 hPa | @ 20 °C |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | No information available | |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | 20 - 140 mPa s | @ 23 °C (TM 0105) |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | 1.03 | |
| **Explosive properties** | No information available | |
| **Oxidizing properties** | No information available | |

### 9.2 Other information

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Keep at (23°F - 122°F) -5°C - 50°C. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static charges.

### 10.5 Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** Inhalation of vapors in high concentration may cause irritation of respiratory system.

**Eye contact** May cause slight irritation.

**Skin contact** May cause an allergic skin reaction.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Propane-1,2-diol | = 20 g/kg ( Rat ) | = 20800 mg/kg ( Rabbit ) | No data available |
| 2-methyl-2h-isothiazol-3-one | 232 - 249 mg/kg ( Rat )<br>= 120 mg/kg ( Rat ) | = 200 mg/kg ( Rabbit ) | = 0.11 mg/L ( Rat ) 4 h |

**Sensitization** May cause allergic skin reaction.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Skin contact. Inhalation.

**Routes of entry** Skin contact. Inhalation.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Propane-1,2-diol | = 710 mg/L LC50 Pimephales promelas 96 h<br>= 51600 mg/L LC50 Oncorhynchus mykiss 96 h<br>41 - 47 mL/L LC50 Oncorhynchus mykiss 96 h<br>= 51400 mg/L LC50 Pimephales promelas 96 h | = 19000 mg/L EC50 Pseudokirchneriella subcapitata 96 h | > 1000 mg/L EC50 Daphnia magna 48 h |
| 2-methyl-2h-isothiazol-3-one | No information available | No information available | No information available |

### 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Propane-1,2-diol | Readily biodegradable |

### 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Propane-1,2-diol | Not likely to bioaccumulate log Kow =-1.07 |

### 12.4 Mobility

**Mobility**
Soluble in water.

**Mobility in soil**
No information available.

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

2-methyl-2h-isothiazol-3-one
Schedule 6

**New Zealand Hazard Classification** Construction Products (Subsidiary Hazard) Group Standard 2020

**HSNO approval no.** HSR002544

**Group number** 6.5B

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | This product contains chemical(s) which is/are not listed on DSL but is/are listed on the NDSL. |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 29-Sep-2020 |
| **Revision date** | 17-Aug-2023 |
| **Version** | 4 |
| **This SDS has been revised in the following section(s)** | 7. Handling and storage 9. Physical and chemical properties Section 16: Other information No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 2 |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | X |

**Disclaimer**

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**SDS no.** D500
**Version** 4
**Revision date** 27-Feb-2023
**Supersedes Date:** 18-Jun-2021

# Safety Data Sheet
## GASBLOK* LT D500

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** GASBLOK* LT D500
**Product code** D500

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Gas control agent

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards**

| | |
|---|---|
| Skin sensitization | Category 1 |

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
WARNING

**Hazard Statements**
H317 - May cause an allergic skin reaction

**Precautionary statements**
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Supplementary precautionary statements**
P272 - Contaminated work clothing should not be allowed out of the workplace
P362 + P364 - Take off contaminated clothing and wash it before reuse

**Contains**
2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol

Methanol (impurity)

### 2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

Prevent the formation of aerosols.

### Australian statement of hazardous/dangerous nature
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| 2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol | 225-208-0 | 4719-04-4 | 0.1-<1 |
| Methanol (impurity) | 200-659-6 | 67-56-1 | 0.1-<1 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification.

## 4. First Aid Measures

### 4.1 First aid measures

| | |
|---|---|
| **Inhalation** | If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult. |
| **Ingestion** | Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur. |
| **Skin contact** | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek medical attention. |
| **Eye Contact** | Remove contact lenses, if worn. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues. |

### 4.2. Most important symptoms and effects, both acute and delayed

| | |
|---|---|
| **General advice** | The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible. |
| **Symptoms** | |
| **Inhalation** | Please see Section 11. Toxicological Information for further information. |
| **Ingestion** | Please see Section 11. Toxicological Information for further information. |
| **Skin contact** | Please see Section 11. Toxicological Information for further information. |
| **Eye contact** | Please see Section 11. Toxicological Information for further information. |

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water spray, dry chemical, carbon dioxide ($CO_2$), or foam.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Thermal decomposition can lead to release of irritating gases and vapors

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8. If spilled, take caution, as material can cause surfaces to become very slippery.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use. If spilled, take caution, as material can cause surfaces to become very slippery. Persons susceptible to allergic reactions should not handle this product. Prevent the formation of vapors, mists and aerosols.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. Keep airborne concentrations below exposure limits. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from open flames, hot surfaces and sources of ignition Keep away from direct sunlight. Protect from freezing Keep at 41 - 131°F / 5 - 55°C |
| **Storage class** | Chemical storage. |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 2,2',2"-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol | Not determined | Not determined | Not determined |
| Methanol (impurity) | 250 ppm STEL<br>328 mg/m³ STEL<br>200 ppm TWA<br>262 mg/m³ TWA | 250ppmSTEL<br>328mg/m³STEL<br>200ppmTWA<br>262mg/m³TWA | 250 ppm STEL<br>325 mg/m³ STEL<br>Skin designation<br>200 ppm TWA<br>260 mg/m³ TWA |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| 2,2',2"-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol | Not determined | Not determined | Group 1 skin sensitizer |
| Methanol (impurity) | 250 ppm STEL<br>310 mg/m³ STEL<br>200 ppm TWA<br>260 mg/m³ TWA | 200 ppm TWA<br>Skin notation<br>250 ppm STEL | May cause substantial skin absorption<br>200 ppm ACL<br>200 ppm OEL<br>260 mg/m³ OEL |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| 2,2',2"-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol | Not determined | Not determined | Not determined |
| Methanol (impurity) | Not determined | 260 mg/m³ TWA<br>200 ppm TWA<br>Skin notation<br>325 mg/m³ STEL<br>250 ppm STEL | 250 ppm STEL<br>328 mg/m³ STEL<br>200 ppm TWA<br>262 mg/m³ TWA<br>Possibility of significant uptake through the skin |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| 2,2',2"-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol | Not determined | Not determined | Not determined |
| Methanol (impurity) | 200 ppm TWA<br>262 mg/m³ TWA<br>Skin notation | 200 ppm TWA<br>260 mg/m³ TWA | Skin notation<br>5 mg/m³ TWA<br>15 mg/m³ MAC<br>Skin |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| 2,2',2"-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol | Not determined | Not determined | Not determined |
| Methanol (impurity) | Not determined | 50 mg/m³ TWA<br>100 mg/m³ STEL | Skin<br>200 ppm TWA<br>260 mg/m³ TWA |

**Notes**
No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Local exhaust ventilation When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment

**Personal protective equipment**

**Eye protection**
Use eye protection according to EN 166, designed to protect against liquid splashes Tightly fitting safety goggles Safety glasses with side-shields

**Hand protection**
Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training
Impervious gloves made of: Nitrile Neoprene Butyl rubber
Break through time >480 minutes
Glove thickness >=0.4 mm
Be aware that liquid may penetrate the gloves. Frequent change is advisable.

**Respiratory protection**
In case of insufficient ventilation wear suitable respiratory equipment Respirator with a

vapor filter (EN 141) Use respirator with organic vapor protection (A, brown) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. If there are conditions in which this triazine containing product produces a vapor, a chemical respirator with A1 + Formaldehyde and P3 particulate pre-filter combination would be required.

**Skin and body protection** Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls**

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Aqueous solution |
| **Odor** | Odorless |
| **Color** | Yellow |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | 7 - 9.5 | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | -5 °C / 23 °F | |
| **Boiling point/range** | > 100 °C / 212 °F | |
| **Flash point** | No information available | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | 2.3 kPa | |
| **Relative Vapor Density** | >1 (air = 1) | |
| **Specific gravity** | 1 | @ 20 °C |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | <= 2000 mPa s | @ 23 °C |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | No information available | |

| | |
|---|---|
| **Explosive properties** | Not applicable |
| **Oxidizing properties** | None known. |

### 9.2 Other information

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition. Keep away from direct sunlight. Protect from freezing. Keep at 41 - 131°F / 5 - 55°C.

### 10.5 Incompatible materials

No materials to be especially mentioned.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

| | |
|---|---|
| **Product information** | Methanol is more toxic to humans and primates than to most experimental animals, due to differences in how it is metabolized. Non-primates do not appear to experience the acidosis or vision effects observed in humans and primates. |
| **Inhalation** | Inhalation of vapors in high concentration may cause irritation of respiratory system. |
| **Eye contact** | May cause slight irritation. |
| **Skin contact** | May cause an allergic skin reaction. |
| **Ingestion** | Ingestion may cause stomach discomfort. |
| **Unknown acute toxicity** | Not applicable. |

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol | 1000 mg/kg (Rat) (BASF AG, 1997) | > 4000 mg/kg (Rat) (BASF AG,1997) | 0.371 mg/L (Aerosol) (Rat) (Triazine Taskforce, 2011) |
| Methanol (impurity) | = 6200 mg/kg ( Rat ) | = 15840 mg/kg ( Rabbit ) | = 22500 ppm ( Rat ) 8 h |

**Sensitization** May cause allergic skin reaction.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Skin contact. Inhalation. Ingestion.

**Routes of entry** Skin absorption. Inhalation. Ingestion.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| 2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol | > 300 mg/l LC50 96h Scophthalmus maximus (SLB data) | 2.9 mg/l EC50 72h Skeletonema costatum (SLB data) | 178 mg/l LC50 48h Acartia tonsa (SLB data) |
| Methanol (impurity) | = 28200 mg/L LC50 Pimephales promelas 96 h<br>> 100 mg/L LC50 Pimephales promelas 96 h<br>19500 - 20700 mg/L LC50 Oncorhynchus mykiss 96 h<br>18 - 20 mL/L LC50 Oncorhynchus mykiss 96 h<br>13500 - 17600 mg/L LC50 Lepomis macrochirus 96 h | No information available | No information available |

### 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| 2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol | Readily biodegradable |
| Methanol (impurity) | Readily biodegradable |

### 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| 2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol | No bioaccumulation potential |
| Methanol (impurity) | Not likely to bioaccumulate Bioconcentration factor (BCF) 1-4.5 |

### 12.4 Mobility

**Mobility**
Soluble in water. See component information below.

| Chemical Name | Mobility |
|---|---|
| 2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol | Soluble in water |
| Methanol (impurity) | Soluble in water |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| 2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol | Study does not need to be conducted because the substance is readily biodegradable |
| Methanol (impurity) | Not expected to adsorb on soil |

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

### 14.1. UN number
Not regulated

**14.2. UN proper shipping name**

The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**

No

**14.6 Special precautions**

None

**14.7 Maritime transport in bulk according to IMO instruments**

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

Methanol (impurity)
Schedule 6
Schedule 5

| | |
|---|---|
| **New Zealand Hazard Classification** | Additives, Process Chemicals and Raw Materials (Subsidiary Hazard) Group Standard 2020 |
| **HSNO approval no.** | HSR002503 |
| **Group number** | 6.5B |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies Volume restriction. |
| **Philippines (PICCS)** | Does not comply |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Does not comply |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Poh Yue Cheong |
| **Supersedes Date:** | 18-Jun-2021 |
| **Revision date** | 27-Feb-2023 |
| **Version** | 4 |
| **This SDS has been revised in the following section(s)** | 15. Regulatory Information No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 2 |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | X |

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# Safety Data Sheet

## Gel Suppressing Agent D606

**Revision date** 02-Apr-2024 **Supersedes Date:** 09-Feb-2010 **Version** 4

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Gel Suppressing Agent D606
**Product code** D606

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**Contains** No hazardous components
**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

This product does not contain any hazardous ingredients, or ingredients with national workplace exposure limits.

**3.2 Mixtures**

Not applicable

## 4. First Aid Measures

**4.1 First aid measures**

| | |
|---|---|
| **Inhalation** | If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult. |
| **Ingestion** | Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur. |
| **Skin contact** | Wash skin thoroughly with soap and water. Get medical attention if symptoms occur. |
| **Eye Contact** | Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues. |

**4.2. Most important symptoms and effects, both acute and delayed**

| | |
|---|---|
| **General advice** | The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible. |
| **Symptoms** | |
| **Inhalation** | Please see Section 11. Toxicological Information for further information. |
| **Ingestion** | Please see Section 11. Toxicological Information for further information. |
| **Skin contact** | Please see Section 11. Toxicological Information for further information. |
| **Eye contact** | Please see Section 11. Toxicological Information for further information. |

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water spray, dry chemical, carbon dioxide ($CO_2$), or foam.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Fire or high temperatures create: Sulphur oxides, Sodium oxides.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**
Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid spills and splashing during use. Avoid dust formation.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from open flames, hot surfaces and sources of ignition Protect from moisture |
| **Storage class** | Chemical storage. |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits**

NUI = Nuisance dust, TWA 4mg/m$^3$ Respirable Dust, 10mg/m$^3$ Total Dust.
Control as an ACGIH particulate not otherwise specified (PNOS): 10 mg/m$^3$ (Inhalable); 3 mg/m$^3$ (Respirable) and an OSHA particulate not otherwise regulated (PNOR): 15 mg/m$^3$ (Total); 5 mg/m$^3$ (Respirable).

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Provide appropriate exhaust ventilation at places where dust is formed

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Use eye protection according to EN 166, designed to protect against dusts Tightly fitting safety goggles Safety glasses with side-shields |

| | |
|---|---|
| **Hand protection** | Wear gloves according to EN 374 to protect against skin effects from powders Repeated or prolonged contact Use protective gloves made of: Neoprene Nitrile PVC Frequent change is advisable |
| **Respiratory protection** | No personal respiratory protective equipment normally required Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust) Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Solid |
| **Appearance** | Powder |
| **Color** | White |
| **Odor** | Odorless |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | No information available | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | > 884 °C / 1623 °F | |
| **Boiling point/range** | Not Applicable | |
| **Flash point** | Not applicable | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | No information available | |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |

| | |
|---|---|
| **Partition Coefficient (n-octanol/water)** | No information available |
| **Density and/or Relative Density** | 1.1 - 1.6 g/cm³ |
| **Explosive properties** | Not applicable |
| **Oxidizing properties** | None known. |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Protect from moisture. Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition.

**10.5 Incompatible materials**

No materials to be especially mentioned.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity**

| | |
|---|---|
| **Inhalation** | Inhalation of dust in high concentration may cause irritation of respiratory system. |
| **Eye contact** | Dust may cause mechanical irritation. |
| **Skin contact** | Prolonged contact may cause redness and irritation. |
| **Ingestion** | Ingestion may cause stomach discomfort. |
| **Unknown acute toxicity** | Not Applicable. |

| | |
|---|---|
| **Sensitization** | This product does not contain any components suspected to be sensitizing. |
| **Mutagenic effects** | This product does not contain any known or suspected mutagens. |
| **Carcinogenicity** | This product does not contain any known or suspected carcinogens. |
| **Reproductive toxicity** | This product does not contain any known or suspected reproductive hazards. |
| **Routes of Exposure** | Inhalation. |
| **Routes of entry** | Inhalation. |
| **Specific target organ toxicity - Single exposure** | Not classified |
| **Specific target organ toxicity - Repeated exposure** | Not classified. |
| **Aspiration hazard** | Not Applicable. |

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

Ecotoxicity effects

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

No product level data available.

### 12.3 Bioaccumulative potential

No product level data available.

### 12.4 Mobility

**Mobility**
Soluble in water.

**Mobility in soil**
No information available.

**12.5 Other adverse effects**

None known.

**12.6 Other information.**

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. |
| **Contaminated packaging** | Empty containers should be taken for local recycling, recovery or waste disposal. |

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
None

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam |
| **Supersedes Date:** | 09-Feb-2010 |
| **Revision date** | 02-Apr-2024 |
| **Version** | 4 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1 |
| Flammability | 0 |
| Physical hazard | 0 |
| PPE | E |

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**SDS no.** D176
**Version** 11
**Revision date** 14-Mar-2022
**Supersedes Date:** 17-Jul-2018

# Safety Data Sheet
## High Temperature Expanding Additive D176

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** High Temperature Expanding Additive D176
**Product code** D176

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

_

**Contains**
Magnesium oxide

Crystalline silica (impurity)

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Magnesium oxide | 215-171-9 | 1309-48-4 | 60-100 |
| Crystalline silica (impurity) | 238-878-4 | 14808-60-7 | 1-<5 |

**3.2 Mixtures**

Not applicable

**Comments**
This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** — If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** — Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** — Wash skin thoroughly with soap and water. Get medical attention if irritation persists.

**Eye Contact** — Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** — The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Thermal decomposition can lead to release of irritating gases and vapors

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**
Avoid dust formation. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Provide appropriate exhaust ventilation at places where dust is formed. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Avoid contact with: Strong acids

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** NUI = Nuisance dust, TWA 4mg/m³ Respirable Dust, 10mg/m³ Total Dust.

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Magnesium oxide | 10 mg/m³ TWA | 10mg/m³TWAfume | 10 mg/m³ TWA |
| Crystalline silica (impurity) | 0.1 mg/m³ TWA | 0.05mg/m³TWArespirable dust | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Magnesium oxide | Not determined | 10 mg/m³ TWA | Not determined |
| Crystalline silica (impurity) | Not determined | 0.025 mg/m³ TWA | 0.03 mg/m³ OEL |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Magnesium oxide | 4 mg/m³ MAC | Not determined | 10 mg/m³ TWA |
| Crystalline silica (impurity) | 1 mg/m³ MAC | 0.1 mg/m³ TWA | 0.05 mg/m³ TWA<br>Confirmed carcinogen |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Magnesium oxide | 10 mg/m³ TWA | 15 mg/m³ TWA | 4 mg/m³ MAC |
| Crystalline silica (impurity) | 0.1 mg/m³ TWA | Not determined | 1 mg/m³ TWA<br>3 mg/m³ MAC<br>Fibrogenic substance glass;in the form of disintegration aerosol;limit is for total mass of aerosols 1153<br>Fibrogenic substance containing >70% Silicon dioxide in dust;limit is for total mass of aerosols 1154 |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |

| | | | |
|---|---|---|---|
| Magnesium oxide | Not determined | 5 mg/m³ TWA<br>10 mg/m³ STEL | Not determined |
| Crystalline silica (impurity) | 0.025 mg/m³ TWA | Not determined | Not determined |

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Keep airborne concentrations below exposure limits

**Personal protective equipment**

**Eye protection** Use eye protection according to EN 166, designed to protect against powders and dusts Tightly fitting safety goggles Safety glasses with side-shields

**Hand protection** Wear gloves according to EN 374 to protect against skin effects from powders Impervious gloves made of: Neoprene Nitrile rubber Butyl rubber Frequent change is advisable

**Respiratory protection** In case of insufficient ventilation wear suitable respiratory equipment Suitable mask with particle filter P3 (European Norm 143) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection** Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

### 8.2.3 Environmental exposure controls

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

**Physical state** Solid
**Appearance** Granules
**Odor** Odorless
**Color** Light yellow - Brown

| Property | Values | Remarks |
|---|---|---|
| **pH** | No information available | |
| **pH @ dilution** | 10.5 | @ 10% (H2O) |
| **Melting / freezing point** | > 2093 °C / 3799 °F | |
| **Boiling point/range** | No information available | |
| **Flash point** | Does not flash | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |

**Explosion limits:**

| | |
|---|---|
| **Upper explosion limit** | No information available |
| **Lower explosion limit** | No information available |
| **Vapor pressure** | No information available |
| **Relative Vapor Density** | No information available |
| **Specific gravity** | 3.4 - 3.6 |
| **Bulk density** | No information available |
| **Water solubility** | Insoluble in water |
| **Solubility in other solvents** | No information available |
| **Autoignition temperature** | No information available |
| **Decomposition temperature** | No information available |
| **Kinematic viscosity** | No information available |
| **Dynamic viscosity** | No information available |
| **Partition Coefficient (n-octanol/water)** | No information available |
| **Density and/or Relative Density** | No information available |
| **Explosive properties** | No information available |
| **Oxidizing properties** | No information available |

### 9.2 Other information

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid dust formation.

### 10.5 Incompatible materials

Strong acids.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Product information** This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis.

**Inhalation** Inhalation of dust in high concentration may cause irritation of respiratory system.

**Eye contact** Dust may cause mechanical irritation.

**Skin contact** Repeated exposure may cause skin dryness or cracking.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Magnesium oxide | = 3870 mg/kg ( Rat )<br>= 3990 mg/kg ( Rat ) | No data available | No data available |
| Crystalline silica (impurity) | No data available | No data available | No data available |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** Contains a known or suspected carcinogen. Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation.

**Routes of entry** Inhalation.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Magnesium oxide | No information available | No information available | No information available |
| Crystalline silica (impurity) | LC50 Danio rerio (zebra fish) : > 10000 mg/l 96h | EC50: > 1000 mg/l 72h | LC50 Daphnia manga (Water flea): > 10000 mg/l 24h |

### 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Magnesium oxide | Inorganic compound |
| Crystalline silica (impurity) | Inorganic compound |

### 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Magnesium oxide | Product/Substance is inorganic |
| Crystalline silica (impurity) | Product/Substance is inorganic |

### 12.4 Mobility

**Mobility**
Insoluble in water.

| Chemical Name | Mobility |
|---|---|
| Magnesium oxide | Insoluble in water |
| Crystalline silica (impurity) | Insoluble in water |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| Magnesium oxide | No information available |
| Crystalline silica (impurity) | Not expected to adsorb on soil |

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |

| | |
|---|---|
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam |
| **Supersedes Date:** | 17-Jul-2018 |
| **Revision date** | 14-Mar-2022 |
| **Version** | 11 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1* |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | E |

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# Safety Data Sheet

## High-Temperature Antisettling Agent D263

**Revision date** 21-Dec-2023 **Supersedes Date:** 06-Apr-2018 **Version** 2

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** High-Temperature Antisettling Agent D263
**Product code** D263

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

_

**Contains**
Sodium salt of sulfonated acrylamide and vinyl lactam

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria
Combustible dust

### Australian statement of hazardous/dangerous nature
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Sodium salt of sulfonated acrylamide and vinyl lactam | Listed | Proprietary | 60-100 |

**3.2 Mixtures**

Not applicable

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash skin thoroughly with soap and water. Get medical attention if irritation persists.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water Fog, Alcohol Foam, $CO_2$, Dry Chemical.

**Extinguishing media which must not be used for safety reasons**
High volume water jet.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
Suspended dust may present a dust explosion hazard.

**Hazardous combustion products**
Thermal decomposition can lead to release of irritating gases and vapors

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. See also section 8. Contaminated surfaces will be extremely slippery.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**
Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust. Avoid dust formation. Take precautionary measures against static discharges. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Contaminated surfaces will be extremely slippery.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits. Take precautionary measures against static discharges.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Avoid heat, flames and other sources of ignition.

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** NUI = Nuisance dust, TWA 4mg/m$^3$ Respirable Dust, 10mg/m$^3$ Total Dust.
Control as an ACGIH particulate not otherwise specified (PNOS): 10 mg/m$^3$ (Inhalable); 3 mg/m$^3$ (Respirable) and an OSHA particulate not otherwise regulated (PNOR): 15 mg/m$^3$ (Total); 5 mg/m$^3$ (Respirable).

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Sodium salt of sulfonated acrylamide and vinyl lactam | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Sodium salt of sulfonated acrylamide and vinyl lactam | Not determined | Not determined | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Sodium salt of sulfonated acrylamide and vinyl lactam | Not determined | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Sodium salt of sulfonated acrylamide and vinyl lactam | Not determined | Not determined | Not determined |

| Chemical Name | Thailand | Vietnam | Turkey |
|---|---|---|---|
| Sodium salt of sulfonated acrylamide and vinyl lactam | Not determined | Not determined | Not determined |

**Notes**
No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Provide appropriate exhaust ventilation at places where dust is formed

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Use eye protection according to EN 166, designed to protect against dusts Safety glasses with side-shields Tightly fitting safety goggles |
| **Hand protection** | Wear gloves according to EN 374 to protect against skin effects from powders<br>Use protective gloves made of: Neoprene Butyl rubber<br>Frequent change is advisable |
| **Respiratory protection** | In case of insufficient ventilation wear suitable respiratory equipment Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Solid |
| **Appearance** | Powder |
| **Color** | White |
| **Odor** | No information available |

| Property | Values | Remarks |
|---|---|---|
| **pH** | No information available | |

| | |
|---|---|
| **pH @ dilution** | No information available |
| **Melting / freezing point** | No information available |
| **Boiling point/range** | No information available |
| **Flash point** | No information available |
| **Evaporation rate (BuAc =1)** | No information available |
| **Flammability** | Not applicable |
| **Explosion limits:** | |
| **Upper explosion limit** | No information available |
| **Lower explosion limit** | No information available |
| **Vapor pressure** | No information available |
| **Relative Vapor Density** | No information available |
| **Specific gravity** | 1.44 |
| **Bulk density** | No information available |
| **Water solubility** | Soluble in water |
| **Solubility in other solvents** | No information available |
| **Autoignition temperature** | No information available |
| **Decomposition temperature** | No information available |
| **Kinematic viscosity** | No information available |
| **Dynamic viscosity** | No information available |
| **Partition Coefficient (n-octanol/water)** | No information available |
| **Density and/or Relative Density** | No information available |
| **Explosive properties** | Suspended dust may present a dust explosion hazard |
| **Oxidizing properties** | None known. |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

Dust may form explosive mixture in air.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Avoid dust formation. Avoid heat, flames and other sources of ignition. Take precautionary measures against static charges.

**10.5 Incompatible materials**

No materials to be especially mentioned.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** Inhalation of dust in high concentration may cause irritation of respiratory system.

**Eye contact** Dust may cause mechanical irritation.

**Skin contact** Prolonged contact may cause redness and irritation.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not Applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Sodium salt of sulfonated acrylamide and vinyl lactam | No data available | No data available | No data available |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation.

**Routes of entry** Inhalation.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not Applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

**12.1 Toxicity**

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that

large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Sodium salt of sulfonated acrylamide and vinyl lactam | No information available | No information available | No information available |

### 12.2 Persistence and degradability

Not readily biodegradable.

### 12.3 Bioaccumulative potential

Bioaccumulation is unlikely.

### 12.4 Mobility

**Mobility**
Soluble in water.

**Mobility in soil**
No information available.

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not Applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Does not comply |
| **Japan (ENCS)** | Does not comply |
| **China (IECSC)** | Does not comply |

| | |
|---|---|
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Does not comply |
| **New Zealand (NZIoC)** | Does not comply |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam |
| **Supersedes Date:** | 06-Apr-2018 |
| **Revision date** | 21-Dec-2023 |
| **Version** | 2 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1 |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | E |

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**SDS no.** D077
**Version** 4
**Revision date** 08-Feb-2021
**Supersedes Date:** 07-Mar-2019

# Safety Data Sheet
## Liquid Accelerator D77

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Liquid Accelerator D77
**Product code** D077

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards**

| | |
|---|---|
| Serious eye damage/eye irritation | Category 2 |

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
WARNING

**Hazard Statements**
H319 - Causes serious eye irritation

**Precautionary statements**
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention

–

**Contains**
Calcium chloride

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Calcium chloride | 233-140-8 | 10043-52-4 | 30 - 60 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification.

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

### 4.2. Most important symptoms and effects, both acute and delayed

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Fire or high temperatures create: Chlorine, chlorine oxides, hydrogen chloride.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Avoid contact with: Strong oxidizing agents Strong reducing agents

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** Contains no substances with occupational exposure limit values

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Calcium chloride | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Calcium chloride | Not determined | Not determined | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Calcium chloride | Not determined | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Calcium chloride | Not determined | Not determined | 2 mg/m³ MAC (aerosol) |

| Chemical Name | Thailand | Vietnam | Turkey |
|---|---|---|---|
| Calcium chloride | Not determined | Not determined | Not determined |

**Notes**
No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation

**Personal protective equipment**

**Eye protection** Use eye protection according to EN 166, designed to protect against liquid splashes Tightly fitting safety goggles Safety glasses with side-shields

**Hand protection** Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training
Impervious gloves made of: Neoprene Nitrile rubber
Break through time >480 minutes
Glove thickness 0.5 mm
Be aware that liquid may penetrate the gloves. Frequent change is advisable.

**Respiratory protection** No personal respiratory protective equipment normally required In case of insufficient ventilation wear suitable respiratory equipment Respirator with combination filter for vapour/particulate (EN 141) Type B/P2 At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection** Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls**

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Clear |
| **Odor** | Odorless |
| **Color** | Colorless |

| Property | Values | Remarks |
|---|---|---|
| **pH** | 6.5 - 7.5 | |
| **pH @ dilution** | No information available | |

| | | |
|---|---|---|
| **Melting / freezing point** | -14 °C / 7 °F | |
| **Boiling point/range** | > 100 °C / >212 °F | |
| **Flash point** | Does not flash | |
| **Evaporation rate (BuAc =1)** | Not applicable | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | 9 mmHg | @ 20 °C |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | 1.01 - 1.41 | @ 20 °C |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | No information available | |
| **Explosive properties** | Not applicable | |
| **Oxidizing properties** | None known. | |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**Hazardous Reactions**
None known.

**10.4 Conditions to avoid**

None known.

**10.5 Incompatible materials**

Oxidizing agents. Strong reducing agents.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** Inhalation of vapors in high concentration may cause irritation of respiratory system.

**Eye contact** Causes serious eye irritation.

**Skin contact** Prolonged contact may cause redness and irritation.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Calcium chloride | = 1000 mg/kg ( Rat ) | > 5000 mg/kg ( Rabbit ) | No data available |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Eye contact.

**Routes of entry** Eye contact.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Neurological effects** None known.

**Target organ effects** None known.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**

This product is not considered toxic to algae.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Calcium chloride | = 10650 mg/L LC50 Lepomis macrochirus 96 h | No information available | 2,400 mg/L EC50 (Daphnia magna) = 48 h |

### 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Calcium chloride | Inorganic compound |

### 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Calcium chloride | Inorganic compound |

### 12.4 Mobility

**Mobility**
Soluble in water. See component information below.

| Chemical Name | Mobility |
|---|---|
| Calcium chloride | Soluble in water |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| Calcium chloride | After release, disperses through ground water |

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**Marine pollutant**
No

**14.6 Special precautions**
Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
The product has been assessed and contained in Chapters 17/18 of the IBC Code and the latest MEPC.2/Circular and is permitted to be carried under Annex II of MARPOL and resolution A.673 (16) Offshore Supply Vessel Code. Proper Shipping Name : Calcium Chloride Solution (less than 35%) Ship Type:- 3. Pollution Category:- Z.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

**New Zealand Hazard Classification** Classified

**HSNO approval no.** Calcium Chloride - HSR003389
Calcium chloride, >25% in a non hazardous diluent - HSR006565

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (IBC Code) with amendments.MARPOL 73/78; Marine Environmental Protection Committee (MEPC) Circulars.**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam |
| **Supersedes Date:** | 07-Mar-2019 |
| **Revision date** | 08-Feb-2021 |
| **Version** | 4 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1 |
| Flammability | 0 |
| Physical hazard | 0 |
| PPE | B |

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# Safety Data Sheet

**SDS no.** D081

## Liquid Retarder D81

**Revision date** 30-Jan-2024 **Supersedes Date:** 10-Aug-2023 **Version** 6

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Liquid Retarder D81
**Product code** D081

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**Contains** No hazardous components
**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

This product does not contain any hazardous ingredients, or ingredients with national workplace exposure limits.

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash skin thoroughly with soap and water. Get medical attention if irritation persists.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water Fog, Alcohol Foam, $CO_2$, Dry Chemical.

**Extinguishing media which must not be used for safety reasons**
Do not use water jet.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Thermal decomposition can lead to release of irritating gases and vapors

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Avoid spills and splashing during use.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing Do not eat, drink or smoke when using this product

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from direct sunlight. Store away from incompatibles, Strong acids Strong oxidizing agents |
| **Storage class** | Chemical storage. |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

| | |
|---|---|
| **Exposure limits** | The product does not contain any hazardous materials with occupational exposure limits established. |

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Local exhaust ventilation

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Use eye protection according to EN 166, designed to protect against liquid splashes Safety glasses with side-shields Tightly fitting safety goggles |
| **Hand protection** | Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Neoprene Nitrile |

| | |
|---|---|
| | Break through time >480 minutes<br>Glove thickness >0.4 mm<br>Be aware that liquid may penetrate the gloves. Frequent change is advisable. |
| **Respiratory protection** | In case of insufficient ventilation wear suitable respiratory equipment Respirator with a vapor filter (EN 141) Use respirator with organic vapor protection (A, brown) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Aqueous solution |
| **Color** | Dark brown |
| **Odor** | Of burnt sugar / Slight |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | 3.5 - 5.1 | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | 0 °C / 32 °F | |
| **Boiling point/range** | No information available | |
| **Flash point** | Does not flash | |
| **Evaporation rate (BuAc =1)** | Not applied | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | Not applied | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | 1.24 - 1.26 | @ 27 °C |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | 400 °C / 752 °F | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | 350 mPa.s | @ 20 °C |
| **Partition Coefficient (n-octanol/water)** | No information available | |

| | |
|---|---|
| **Density and/or Relative Density** | No information available |
| **Explosive properties** | Not applied |
| **Oxidizing properties** | None known. |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Keep away from direct sunlight.

**10.5 Incompatible materials**

Strong oxidizing agents. Strong acids.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity**

| | |
|---|---|
| **Inhalation** | Inhalation of vapors in high concentration may cause irritation of respiratory system. |
| **Eye contact** | May cause slight irritation. |
| **Skin contact** | Prolonged contact may cause redness and irritation. |
| **Ingestion** | Ingestion may cause stomach discomfort. |
| **Unknown acute toxicity** | Not Applicable. |

| | |
|---|---|
| **Sensitization** | This product does not contain any components suspected to be sensitizing. |
| **Mutagenic effects** | This product does not contain any known or suspected mutagens. |
| **Carcinogenicity** | This product does not contain any known or suspected carcinogens. |
| **Reproductive toxicity** | This product does not contain any known or suspected reproductive hazards. |
| **Routes of Exposure** | None known. |
| **Routes of entry** | None known. |
| **Specific target organ toxicity - Single exposure** | Not classified |
| **Specific target organ toxicity - Repeated exposure** | Not classified. |
| **Aspiration hazard** | Not Applicable. |

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Listed on PLONOR list of OSPAR

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

No product level data available.

### 12.3 Bioaccumulative potential

Does not bioaccumulate.

### 12.4 Mobility

**Mobility**
Soluble in water.

**Mobility in soil**
No information available.

**12.5 Other adverse effects**

None known.

**12.6 Other information.**

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. |
| **Contaminated packaging** | Empty containers should be taken for local recycling, recovery or waste disposal. |

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not Applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

| | |
|---|---|
| **New Zealand Hazard Classification** | Not classified |
| **HSNO approval no.** | Not required |
| **Group number** | Not required |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 10-Aug-2023 |
| **Revision date** | 30-Jan-2024 |
| **Version** | 6 |
| **This SDS has been revised in the following section(s)** | 9, 16 No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1 |
| Flammability | 0 |
| Physical hazard | 0 |
| PPE | B |

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# Safety Data Sheet

**SDS no.** D194

## Liquid Trifunctional Additive D194

**Revision date** 12-Sep-2023 **Supersedes Date:** 12-Feb-2019 **Version** 5

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Liquid Trifunctional Additive D194
**Product code** D194

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**Contains** No hazardous components

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

This product does not contain any hazardous ingredients, or ingredients with national workplace exposure limits.

## 4. First Aid Measures

**4.1 First aid measures**

| | |
|---|---|
| **Inhalation** | If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult. |
| **Ingestion** | Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur. |
| **Skin contact** | Wash off immediately with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| **Eye Contact** | Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues. |

**4.2. Most important symptoms and effects, both acute and delayed**

| | |
|---|---|
| **General advice** | The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible. |
| **Symptoms** | |
| **Inhalation** | Please see Section 11. Toxicological Information for further information. |
| **Ingestion** | Please see Section 11. Toxicological Information for further information. |
| **Skin contact** | Please see Section 11. Toxicological Information for further information. |

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Thermal decomposition can lead to release of irritating gases and vapors

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Avoid contact with: Strong oxidizing agents |
| **Storage class** | Chemical storage. |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

| | |
|---|---|
| **Exposure limits** | The product does not contain any hazardous materials with occupational exposure limits established. |

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation, especially in confined areas

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Use eye protection according to EN 166, designed to protect against liquid splashes Tightly fitting safety goggles Safety glasses with side-shields |
| **Hand protection** | Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee |

| | |
|---|---|
| | training<br>Impervious gloves made of: Neoprene Nitrile<br>Break through time >480 minutes<br>Glove thickness >0.4 mm<br>Be aware that liquid may penetrate the gloves. Frequent change is advisable. |
| **Respiratory protection** | In case of insufficient ventilation wear suitable respiratory equipment Respirator with combination filter for vapour/particulate (EN 141) Type A/P2 At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | No information available |
| **Color** | Brown |
| **Odor** | Mild |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | 10 | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | -2 °C / 28.4 °F | |
| **Boiling point/range** | 104 °C / 219.2 °F | |
| **Flash point** | No information available | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | 14.2 mmHg | @ 20 °C |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | 1.30 | |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | <600 cst | |
| **Dynamic viscosity** | No information available | |

| | |
|---|---|
| **Partition Coefficient (n-octanol/water)** | No information available |
| **Density and/or Relative Density** | No information available |
| **Explosive properties** | No information available |
| **Oxidizing properties** | No information available |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

None known.

**10.5 Incompatible materials**

Strong oxidizing agents.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity**

| | |
|---|---|
| **Inhalation** | Inhalation of vapors in high concentration may cause irritation of respiratory system. |
| **Eye contact** | May cause slight irritation. |
| **Skin contact** | Prolonged contact may cause redness and irritation. |
| **Ingestion** | Ingestion may cause stomach discomfort. |
| **Unknown acute toxicity** | Not applicable. |

| | |
|---|---|
| **Sensitization** | This product does not contain any components suspected to be sensitizing. |
| **Mutagenic effects** | This product does not contain any known or suspected mutagens. |
| **Carcinogenicity** | This product does not contain any known or suspected carcinogens. |
| **Reproductive toxicity** | This product does not contain any known or suspected reproductive hazards. |
| **Routes of Exposure** | Skin contact. Inhalation. Ingestion. Eye contact. |
| **Routes of entry** | Ingestion. Inhalation. |
| **Specific target organ toxicity - Single exposure** | Not classified |
| **Specific target organ toxicity - Repeated exposure** | Not classified. |
| **Aspiration hazard** | Not applicable. |

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Large amounts will affect pH and harm aquatic organisms

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

No product level data available.

### 12.3 Bioaccumulative potential

No product level data available.

### 12.4 Mobility

**Mobility**
The product is water soluble, and may spread in water systems.

**Mobility in soil**
No information available.

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. |
| **Contaminated packaging** | Empty containers should be taken for local recycling, recovery or waste disposal. |

## 14. Transport information

### 14.1. UN number
Not regulated

### 14.2. UN proper shipping name
The product is not covered by international regulation on the transport of dangerous goods

### 14.3 Hazard class(es)

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

### 14.4 Packing group

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

### 14.5 Environmental hazard
No

### 14.6 Special precautions
None

### 14.7 Maritime transport in bulk according to IMO instruments

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

| | |
|---|---|
| **New Zealand Hazard Classification** | Not classified |
| **HSNO approval no.** | Not applicable |
| **Group number** | Not applicable |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam |
| **Supersedes Date:** | 12-Feb-2019 |
| **Revision date** | 12-Sep-2023 |
| **Version** | 5 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1 |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | B |

**Disclaimer**
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# Safety Data Sheet

## Low Temperature Cement Set Enhancer D186

**Revision date** 24-Oct-2024 **Supersedes Date:** 29-Aug-2023 **Version** 10

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Low Temperature Cement Set Enhancer D186
**Product code** D186

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA +1 866 928 0789

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards**

| | |
|---|---|
| Acute toxicity - Oral | Category 4 |
| Serious eye damage/eye irritation | Category 1 |

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
DANGER

**Hazard Statements**
H302 - Harmful if swallowed
H318 - Causes serious eye damage

**Precautionary statements**
P270 - Do not eat, drink or smoke when using this product
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Supplementary precautionary statements**
P264 - Wash face, hands and any exposed skin thoroughly after handling
P330 - Rinse mouth

**Contains**
Calcium nitrate

2,2' -oxydiethanol

Calcium Bromide

2,2'-Methyliminodiethanol

### 2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

### Australian statement of hazardous/dangerous nature
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Calcium nitrate | 233-332-1 | 10124-37-5 | 10-30 |
| 2,2' -oxydiethanol | 203-872-2 | 111-46-6 | 1-5 |
| Calcium Bromide | 232-164-6 | 7789-41-5 | 1-5 |
| 2,2'-Methyliminodiethanol | 203-312-7 | 105-59-9 | 1-5 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification.

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek medical attention if irritation occurs.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

### 4.2. Most important symptoms and effects, both acute and delayed

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
High volume water jet.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Fire or high temperatures create: Ammonia, Nitrogen oxides (NOx), Carbon oxides (COx).

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. Do not eat, drink or smoke when using this product Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Avoid excessive heat for prolonged periods of time. Avoid contact with: Acids Bases Strong reducing agents

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Component Information**

| **Chemical Name** | **Arabic** | **Australia** | **Egypt** |
|---|---|---|---|
| Calcium nitrate | Not determined | Not determined | Not determined |
| 2,2' -oxydiethanol | Not determined | 23ppmTWA<br>100mg/m³TWA | Not determined |
| Calcium Bromide | Not determined | Not determined | Not determined |
| 2,2'-Methyliminodiethanol | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Calcium nitrate | Not determined | Not determined | Not determined |
| 2,2' -oxydiethanol | Not determined | Not determined | Not determined |
| Calcium Bromide | Not determined | Not determined | Not determined |
| 2,2'-Methyliminodiethanol | Not determined | Not determined | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Calcium nitrate | Not determined | Not determined | Not determined |
| 2,2' -oxydiethanol | 10 mg/m³ MAC | Not determined | 40 ppm STEL<br>176 mg/m³ STEL<br>10 ppm TWA<br>44 mg/m³ TWA |
| Calcium Bromide | Not determined | Not determined | Not determined |
| 2,2'-Methyliminodiethanol | 5 mg/m³ MAC | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Calcium nitrate | Not determined | Not determined | Not determined |
| 2,2' -oxydiethanol | Not determined | Not determined | 10 mg/m³ MAC |
| Calcium Bromide | Not determined | Not determined | Not determined |
| 2,2'-Methyliminodiethanol | Not determined | Not determined | 5 mg/m³ MAC<br>Skin |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Calcium nitrate | Not determined | Not determined | Not determined |
| 2,2' -oxydiethanol | Not determined | Not determined | Not determined |
| Calcium Bromide | Not determined | Not determined | Not determined |
| 2,2'-Methyliminodiethanol | Not determined | Not determined | Not determined |

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Local exhaust ventilation

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Use eye protection according to EN 166, designed to protect against liquid splashes Wear chemical splash goggles and face shield |
| **Hand protection** | Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Butyl rubber<br>Break through time >480 minutes<br>Glove thickness 0.7 mm<br>Be aware that liquid may penetrate the gloves. Frequent change is advisable. |
| **Respiratory protection** | In case of insufficient ventilation wear suitable respiratory equipment Respirator with a vapor filter (EN 141) Use respirator with organic vapor/acid gas protection (E, yellow) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before breaks and immediately after handling the product |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | No information available |
| **Color** | Light green |
| **Odor** | None |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | No information available | |
| **pH @ dilution** | 8.5 - 10 | 1:20 dilution in distilled water |
| **Melting / freezing point** | No information available | |
| **Boiling point/range** | No information available | |
| **Flash point** | No information available | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | 1.3 - 1.4 | 20 °C |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |

| | |
|---|---|
| **Autoignition temperature** | No information available |
| **Decomposition temperature** | No information available |
| **Kinematic viscosity** | No information available |
| **Dynamic viscosity** | No information available |
| **Partition Coefficient (n-octanol/water)** | No information available |
| **Density and/or Relative Density** | No information available |
| **Explosive properties** | No information available |
| **Oxidizing properties** | No information available |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Avoid excessive heat for prolonged periods of time.

**10.5 Incompatible materials**

Acids. Bases. Strong reducing agents.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity**

| | |
|---|---|
| **Inhalation** | Inhalation of vapors in high concentration may cause irritation of respiratory system. |
| **Eye contact** | Causes serious eye damage. |
| **Skin contact** | Prolonged contact may cause redness and irritation. |

**Ingestion** Harmful if swallowed.

**Unknown acute toxicity** Not Applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Calcium nitrate | = 302 mg/kg ( Rat ) | No data available | No data available |
| 2,2' -oxydiethanol | = 12565 mg/kg ( Rat ) | = 11890 mg/kg ( Rabbit ) | > 4600 mg/m³ ( Rat ) 4 h |
| Calcium Bromide | = 4100 mg/kg ( Rat ) | > 2000 mg/kg ( Rabbit ) | No data available |
| 2,2'-Methyliminodiethanol | = 1945 mg/kg ( Rat ) | = 10244 mg/kg ( Rabbit ) | > 6.5 mg/m³ ( Rat ) 6 h |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Eye contact. Ingestion. Inhalation.

**Routes of entry** Eye contact. Ingestion. Inhalation.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not Applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Calcium nitrate | = 10000 mg/L LC50 Lepomis macrochirus 96 h | No information available | No information available |
| 2,2' -oxydiethanol | = 75200 mg/L LC50 Pimephales promelas 96 h | No information available | = 84000 mg/L EC50 Daphnia magna 48 h |
| Calcium Bromide | No information available | No information available | No information available |
| 2,2'-Methyliminodiethanol | > 1000 mg/L LC50 Pimephales promelas 96 h | = 20 mg/L EC50 Desmodesmus subspicatus 96 h<br>= 37 mg/L EC50 Desmodesmus subspicatus 72 h | = 230 mg/L EC50 Daphnia magna 48 h |

### 12.2 Persistence and degradability

Not readily biodegradable.

### 12.3 Bioaccumulative potential

Bioaccumulation is unlikely.

### 12.4 Mobility

**Mobility**
Soluble in water.

**Mobility in soil**
No information available.

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

### 14.1. UN number
Not regulated

### 14.2. UN proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**

No

**14.6 Special precautions**

Not Applicable

**14.7 Maritime transport in bulk according to IMO instruments**

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

2,2' -oxydiethanol
Schedule 6
Schedule 5
Calcium Bromide
Schedule 4

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |

| | |
|---|---|
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Does not comply |
| **Japan (ENCS)** | Does not comply |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 29-Aug-2023 |
| **Revision date** | 24-Oct-2024 |
| **Version** | 10 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 2 |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | X |

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# Safety Data Sheet

**SDS no.** D230

## Low Temperature Dispersant D230

**Revision date** 24-Jan-2025 **Supersedes Date:** 23-Apr-2021 **Version** 6

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Low Temperature Dispersant D230
**Product code** D230

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**Contains** No hazardous components

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

This product does not contain any hazardous ingredients, or ingredients with national workplace exposure limits.

## 4. First Aid Measures

**4.1 First aid measures**

| | |
|---|---|
| **Inhalation** | If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult. |
| **Ingestion** | Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur. |
| **Skin contact** | Wash skin thoroughly with soap and water. Get medical attention if irritation persists. |
| **Eye Contact** | Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues. |

**4.2. Most important symptoms and effects, both acute and delayed**

| | |
|---|---|
| **General advice** | The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible. |
| **Symptoms** | |
| **Inhalation** | Please see Section 11. Toxicological Information for further information. |
| **Ingestion** | Please see Section 11. Toxicological Information for further information. |
| **Skin contact** | Please see Section 11. Toxicological Information for further information. |
| **Eye contact** | Please see Section 11. Toxicological Information for further information. |

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
Heating of containers may cause pressure rise, with risk of bursting.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx).

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from direct sunlight. Protect from freezing |
| **Storage class** | Chemical storage. |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

| | |
|---|---|
| **Exposure limits** | The product does not contain any hazardous materials with occupational exposure limits established. |

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Eye protection must conform to standard EN 166 Tightly fitting safety goggles Safety glasses with side-shields |
| **Hand protection** | Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee |

| | |
|---|---|
| | training<br>Use protective gloves made of: Butyl rubber Nitrile rubber<br>Be aware that liquid may penetrate the gloves. Frequent change is advisable. |
| **Respiratory protection** | No personal respiratory protective equipment normally required In case of insufficient ventilation wear suitable respiratory equipment Respirator with combination filter for vapour/particulate (EN 141) Type A/P2 At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | No information available |
| **Color** | Colorless |
| **Odor** | Characteristic |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | 3.5 - 5.5 | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | ~0 °C / ~32 °F | |
| **Boiling point/range** | No information available | |
| **Flash point** | Does not flash | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Non Ignitable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | No information available | |
| **Bulk density** | No information available | |
| **Water solubility** | Dispersible | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **Partition Coefficient** | No information available | |

**(n-octanol/water)**
**Density and/or Relative Density** 1.006 - 1.046 g/ml

**Explosive properties** Not applicable
**Oxidizing properties** No information available

**9.2 Other information**
**Pour point** No information available
**Molecular weight** No information available
**VOC content(%)** None

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Keep away from direct sunlight. Protect from freezing.

**10.5 Incompatible materials**

No materials to be especially mentioned.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological information

**11.1 Information on toxicological effects**
**Acute toxicity**
**Inhalation** Inhalation of vapors in high concentration may cause irritation of respiratory system.

**Eye contact** May cause slight irritation.

**Skin contact** Prolonged contact may cause redness and irritation.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not Applicable.

| | |
|---|---|
| **Sensitization** | This product does not contain any components suspected to be sensitizing. |
| **Mutagenic effects** | This product does not contain any known or suspected mutagens. |
| **Carcinogenicity** | This product does not contain any known or suspected carcinogens. |
| **Reproductive toxicity** | This product does not contain any known or suspected reproductive hazards. |
| **Routes of Exposure** | None known. |
| **Routes of entry** | No route of entry noted. |
| **Specific target organ toxicity - Single exposure** | Not classified |
| **Specific target organ toxicity - Repeated exposure** | Not classified. |
| **Aspiration hazard** | Not Applicable. |

### 11.2 Information on other hazards

| | |
|---|---|
| **Other information** | Key literature references and sources for data. See Section 16 for more information. |

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

No product level data available.

### 12.3 Bioaccumulative potential

No product level data available.

**12.4 Mobility**

**Mobility**
Dispersible.

**Mobility in soil**
No information available.

**12.5 Other adverse effects**

None known.

**12.6 Other information.**

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. |
| **Contaminated packaging** | Empty containers should be taken for local recycling, recovery or waste disposal. |

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not Applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

| | |
|---|---|
| **New Zealand Hazard Classification** | Not classified |
| **HSNO approval no.** | Not required |
| **Group number** | Not required |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG) ADG Code – Australian Dangerous Goods Code**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Does not comply |
| **Japan (ENCS)** | Does not comply |
| **China (IECSC)** | Does not comply |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Does not comply |
| **New Zealand (NZIoC)** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam |
| **Supersedes Date:** | 23-Apr-2021 |
| **Revision date** | 24-Jan-2025 |
| **Version** | 6 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 0 |
| Flammability | 0 |
| Physical hazard | 0 |
| PPE | B |

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**SDS no.** D145A
**Version** 3
**Revision date** 17-Mar-2021
**Supersedes Date:** 03-Mar-2016

# Safety Data Sheet
## Low-Temperature Liquid Dispersant D145A

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Low-Temperature Liquid Dispersant D145A
**Product code** D145A

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Oilfield Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
256 St. Georges Terrace, Perth WA 6000
+47 5157 7424

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards**

| | |
|---|---|
| Carcinogenicity | Category 1B |

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
DANGER

**Hazard Statements**
H350 - May cause cancer

**Precautionary statements**
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

–

**Contains**
Formaldehyde (impurity)

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

### Australian statement of hazardous/dangerous nature
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Formaldehyde (impurity) | 200-001-8 | 50-00-0 | < 0.2 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification.

Note B: Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations.
Note D: Certain substances which are susceptible to spontaneous polymerisation or decomposition are generallyplaced on the market in a stabilised form. It is in this form that they are listed in Part 3.

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** — If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

| | |
|---|---|
| **Ingestion** | Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur. |
| **Skin contact** | Wash off immediately with soap and plenty of water. Remove contaminated clothing and shoes. Seek medical attention if irritation occurs. |
| **Eye Contact** | Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues. |

### 4.2. Most important symptoms and effects, both acute and delayed

**Symptoms**

| | |
|---|---|
| **Inhalation** | Please see Section 11. Toxicological Information for further information. |
| **Ingestion** | Please see Section 11. Toxicological Information for further information. |
| **Skin contact** | Please see Section 11. Toxicological Information for further information. |
| **Eye contact** | Please see Section 11. Toxicological Information for further information. |

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water spray, dry chemical, carbon dioxide ($CO_2$), or foam.

**Extinguishing media which must not be used for safety reasons**
Do not use a solid water stream as it may scatter and spread fire.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx), Nitrogen oxides (NOx), Harmful organic chemical fumes.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Do not get on skin or clothing. Wash thoroughly after handling. Use personal protective

equipment. Do not breathe vapors or spray mist. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see Section 13).

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Avoid spills and splashing during use. Do not breathe vapors or spray mist. Persons susceptible to allergic reactions should not handle this product.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Avoid excessive heat for prolonged periods of time. Protect from freezing Avoid contact with: Strong acids Strong bases Strong oxidizing agents Strong reducing agents

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Formaldehyde (impurity) | 0.3 ppm STEL<br>0.4 mg/m³ STEL | 2ppmSTEL<br>2.5mg/m³STEL<br>1ppmTWA<br>1.2mg/m³TWA | 0.3 ppm Ceiling<br>0.37 mg/m³ Ceiling<br>Suspected Human Carcinogen<br>0.3 ppm TWA |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Formaldehyde (impurity) | 2 ppm STEL | 0.3 ppm STEL | 0.2 ppm Ceiling |

| | | | |
|---|---|---|---|
| | 3 mg/m³ STEL<br>1.0 ppm TWA<br>1.5 mg/m³ TWA | 0.3 mg/m³ STEL | 0.24 mg/m³ Ceiling<br>Group 2 airway sensitizer<br>Group 1 skin sensitizer<br>0.1 ppm ACL<br>0.1 ppm OEL<br>0.12 mg/m³ OEL |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Formaldehyde (impurity) | 0.5 mg/m³ MAC | 0.016 ppm TWA<br>0.1 ppm STEL | 0.5 ppm TWA<br>0.33 ppm TWA<br>sensitiser<br>Confirmed carcinogen<br>1 ppm Ceiling |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Formaldehyde (impurity) | 0.3 ppm Ceiling<br>0.37 mg/m³ Ceiling | Not determined | 0.5 mg/m³ MAC (vapor) |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Formaldehyde (impurity) | 2 ppm STEL<br>0.75 ppm TWA | 0.5 mg/m³ TWA<br>1 mg/m³ STEL | Not determined |

**Notes**
No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Keep airborne concentrations below exposure limits

**Personal protective equipment**

**Eye protection**
Use eye protection according to EN 166, designed to protect against liquid splashes Tightly fitting safety goggles Safety glasses with side-shields

**Hand protection**
Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training
Impervious gloves made of: Butyl rubber Nitrile
Break through time >480 minutes
Glove thickness 0.7 mm
Be aware that liquid may penetrate the gloves. Frequent change is advisable.

**Respiratory protection**
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators Respirator with a vapor filter (EN 141) Use respirator with organic vapor protection (A, brown) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection**
Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures**
Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls**

**Environmental exposure**
Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Clear |
| **Odor** | Characteristic |
| **Color** | No information available |
| **Odor threshold** | Not applicable |

| Property | Values | Remarks |
|---|---|---|
| **pH** | 9.0 - 11.4 | |
| **pH @ dilution** | No information available | Not applicable |
| **Melting / freezing point** | 0 °C / 32 °F | |
| **Boiling point/range** | ~ 100 °C / 212 °F | |
| **Flash point** | Non-flammable | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability (solid, gas)** | Not applicable | |
| **Flammability Limit in Air** | | |
| **Upper flammability limit** | Not applicable | |
| **Lower flammability limit** | Not applicable | |
| **Vapor pressure** | No information available | |
| **Vapor density** | No information available | |
| **Specific gravity** | No information available | |
| **Bulk density** | No information available | |
| **Relative density** | No information available | |
| **Water solubility** | Miscible with water. | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | 30 - 60 mm2/s | @ 20 °C |
| **Dynamic viscosity** | No information available | |
| **log Pow** | No information available | |

| | |
|---|---|
| **Explosive properties** | No information available |
| **Oxidizing properties** | No information available |

### 9.2 Other information

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |
| **Density** | 1.24 - 1.26 g/ml @ 20 °C |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid excessive heat for prolonged periods of time. Protect from freezing.

### 10.5 Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents. Strong reducing agents.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** Inhalation of vapors in high concentration may cause irritation of respiratory system.

**Eye contact** May cause slight irritation.

**Skin contact** Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Formaldehyde (impurity) | = 100 mg/kg ( Rat ) | = 270 mg/kg ( Rabbit ) | = 0.578 mg/L ( Rat ) 4 h |

**Sensitization** EUH208 - Contains ( Formaldehyde ). May produce an allergic reaction.

**Mutagenic effects** Contains an known or suspected mutagen.

**Carcinogenicity** Contains a known or suspected carcinogen. Formaldehyde is listed by IARC in Group 1 as carcinogenic to humans.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation. Skin contact. Eye contact.

**Routes of entry** Inhalation. Skin contact. Eye contact.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Formaldehyde (impurity) | 23.2 - 29.7 mg/L LC50 Pimephales promelas 96 h 100 - 136 mg/L LC50 Oncorhynchus mykiss 96 h 0.032 - 0.226 mL/L LC50 Oncorhynchus mykiss 96 h = 41 mg/L LC50 Brachydanio rerio 96 h = 1510 µg/L LC50 Lepomis macrochirus 96 h 22.6 - 25.7 mg/L LC50 Pimephales promelas 96 h | No information available | 11.3 - 18 mg/L EC50 Daphnia magna 48 h = 2 mg/L LC50 Daphnia magna 48 h |

### 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Formaldehyde (impurity) | Rapidly biodegradable |

### 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Formaldehyde (impurity) | Does not bioaccumulate log Pow =0.35 |

### 12.4 Mobility

**Mobility**
Soluble in water. See component information below.

| Chemical Name | Mobility |
|---|---|
| Formaldehyde (impurity) | Miscible in water |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| Formaldehyde (impurity) | Henry's Law Constant 0.034 (in Pa m³/mol) @ 25 °C |

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

### 12.6 Other adverse effects.

None known.

### 12.7 Other information

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

### 14.1. UN number

Not regulated

### 14.2. UN proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

### 14.3 Hazard class(es)

**ADR/RID/ADN/ADG Hazard class** Not regulated
**IMDG/ANTAQ Hazard class** Not regulated
**ICAO/ANAC Hazard class/division** Not regulated

### 14.4 Packing group

**ADR/RID/ADN/ADG Packing group** Not regulated
**IMDG/ANTAQ Packing group** Not regulated
**ICAO/ANAC Packing group** Not regulated

### 14.5 Environmental hazard

No

### 14.6 Special precautions

Not applicable

### 14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

Formaldehyde (impurity)
Schedule 6

| | |
|---|---|
| **New Zealand Hazard Classification** | Classified |
| **HSNO approval no.** | HSR002512 |
| **Group number** | 6.7A |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Poh Yue Cheong |
| **Supersedes Date:** | 03-Mar-2016 |
| **Revision date** | 17-Mar-2021 |
| **Version** | 3 |
| **This SDS has been revised in the following section(s)** | All sections There have been changes with regard to classification. |

**Key literature references and sources for data**

www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

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**SDS no.** D155
**Version** 5
**Revision date** 06-Feb-2023
**Supersedes Date:** 13-Nov-2019

# Safety Data Sheet
## Low-Temperature Liquid Extender D155

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Low-Temperature Liquid Extender D155
**Product code** D155

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

–

**Contains**
Fumed silica

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

### Australian statement of hazardous/dangerous nature
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Fumed silica | 273-761-1 | 69012-64-2 | 30 - 60 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification.

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
React with hydrofluoric acid (HF) forming toxic gas (SiF4).

**Hazardous combustion products**
Thermal decomposition can lead to release of irritating gases and vapors

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Store above 0°C Protect from freezing React with hydrofluoric acid (HF) forming toxic gas (SiF4)

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** Because this product is a liquid, the dust-related Workplace Exposure Limits for the components do not apply.

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Fumed silica | 10 mg/m³ TWA<br>3 mg/m³ TWA<br>2 mg/m³ TWA | 2mg/m³TWArespirable dust | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Fumed silica | Not determined | 2 mg/m³ TWA | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Fumed silica | Not determined | Not determined | 2 mg/m³ TWA |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Fumed silica | 2 mg/m³ TWA | Not determined | Not determined |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Fumed silica | Not determined | Not determined | Not determined |

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Use eye protection according to EN 166, designed to protect against liquid splashes Tightly fitting safety goggles Safety glasses with side-shields |
| **Hand protection** | Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Neoprene Nitrile<br>Break through time >480 minutes<br>Glove thickness >=0.4 mm<br>Be aware that liquid may penetrate the gloves. Frequent change is advisable. |
| **Respiratory protection** | No personal respiratory protective equipment normally required In case of inadequate ventilation wear respiratory protection Respirator with combination filter for vapour/particulate (EN 141) Type A/P2 At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Slurry |
| **Odor** | Odorless |
| **Color** | Gray |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | 4 - 7 | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | No information available | |
| **Boiling point/range** | No information available | |
| **Flash point** | No information available | |
| **Evaporation rate (BuAc =1)** | Similar to water. | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | 1.35 - 1.42 | |
| **Bulk density** | No information available | |
| **Water solubility** | Insoluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |

| | |
|---|---|
| **Dynamic viscosity** | No information available |
| **Partition Coefficient (n-octanol/water)** | No information available |
| **Density and/or Relative Density** | No information available |
| **Explosive properties** | Not applicable |
| **Oxidizing properties** | None known. |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

React with hydrofluoric acid (HF) forming toxic gas (SiF4).

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Protect from freezing. Store above 0°C.

**10.5 Incompatible materials**

Hydrofluoric acid (HF).

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity**

| | |
|---|---|
| **Product information** | Because this product is a liquid, under normal and recommended use, exposure to Respirable Crystalline Silica will not apply. |
| **Inhalation** | Inhalation of vapors in high concentration may cause irritation of respiratory system. |
| **Eye contact** | May cause slight irritation. |
| **Skin contact** | Prolonged contact may cause redness and irritation. |
| **Ingestion** | Ingestion may cause stomach discomfort. |
| **Unknown acute toxicity** | Not applicable. |

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Fumed silica | >5000 mg/kg bw | >5000 mg/kg bw | No data available |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** None known.

**Routes of entry** None known.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Listed on PLONOR list of OSPAR

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Fumed silica | LC50>100 mg/l | LC50>323 mg/l (72h) | LC50>1003 mg/l |

### 12.2 Persistence and degradability

Not Applicable - Inorganic chemical. See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Fumed silica | Not Applicable - Inorganic chemical. |

### 12.3 Bioaccumulative potential

Not Applicable - Inorganic chemical. See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Fumed silica | Not Applicable - Inorganic chemical. |

### 12.4 Mobility

**Mobility**
Insoluble in water. See component information below.

| Chemical Name | Mobility |
|---|---|
| Fumed silica | Slightly soluble |

**Mobility in soil**
No information available.

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

### 14.1. UN number
Not regulated

### 14.2. UN proper shipping name
The product is not covered by international regulation on the transport of dangerous goods

### 14.3 Hazard class(es)
**ADR/RID/ADN/ADG Hazard class** Not regulated
**IMDG/ANTAQ Hazard class** Not regulated
**ICAO/ANAC Hazard class/division** Not regulated

### 14.4 Packing group
**ADR/RID/ADN/ADG Packing group** Not regulated
**IMDG/ANTAQ Packing group** Not regulated
**ICAO/ANAC Packing group** Not regulated

### 14.5 Environmental hazard
No

**14.6 Special precautions**
Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

| | |
|---|---|
| **New Zealand Hazard Classification** | Not classified |
| **HSNO approval no.** | Not required |
| **Group number** | Not required |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 13-Nov-2019 |
| **Revision date** | 06-Feb-2023 |

| | |
|---|---|
| **Version** | 5 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1 |
| Flammability | 0 |
| Physical hazard | 0 |
| PPE | B |

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**SDS no.** B038
**Version** 4
**Revision date** 02-Sep-2022
**Supersedes Date:** 28-Jun-2019

# Safety Data Sheet
## LT Liquid Extender B38

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** LT Liquid Extender B38
**Product code** B038

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

_

**Contains**
Silicon Dioxide

Ethylene Glycol

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

### Australian statement of hazardous/dangerous nature
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Silicon Dioxide | 231-545-4 | 7631-86-9 | 10-30 |
| Ethylene Glycol | 203-473-3 | 107-21-1 | 1-5 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification.

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water Fog, Alcohol Foam, $CO_2$, Dry Chemical.

**Extinguishing media which must not be used for safety reasons**
Do not use water jet.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Thermal decomposition can lead to release of irritating and toxic gases and vapors Carbon oxides (COx).

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Store at ambient conditions Avoid excessive heat for prolonged periods of time.

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** Because this product is a liquid, the dust-related Workplace Exposure Limits for the components do not apply.

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Silicon Dioxide | Not determined | 2mg/m³TWArespirable dust<br>10mg/m³TWAinhalable | Not determined |
| Ethylene Glycol | Not determined | 40ppmSTELvapour<br>104mg/m³STELvapour<br>10mg/m³TWAparticulate<br>20ppmTWAvapour<br>52mg/m³TWAvapour | 39.4 ppm Ceiling<br>100 mg/m³ Ceiling |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Silicon Dioxide | 10 mg/m³ TWA | Not determined | Not determined |
| Ethylene Glycol | Not determined | 100 mg/m³ STEL | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Silicon Dioxide | 1 mg/m³ MAC | 6.0 mg/m³ TWA | Not determined |
| Ethylene Glycol | Not determined | 125 mg/m³ TWA<br>50.0 ppm TWA<br>100 mg/m³ STEL | 50 ppm Ceiling mist and vapour<br>127 mg/m³ Ceiling mist and vapour |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Silicon Dioxide | Not determined | Not determined | 1 mg/m³ TWA<br>2 mg/m³ TWA<br>3 mg/m³ MAC<br>6 mg/m³ MAC<br>Fibrogenic substance in the form of |

| | | | |
|---|---|---|---|
| | | | condensation aerosol, containing >60% Silicon dioxide;limit is for total mass of aerosols 1151 Fibrogenic substance in the form of condensation aerosol, containing 10-60% Silicon dioxide;limit is for total mass of aerosols 1152 Fibrogenic substance also vitreous, in the form of disintegration aerosol;limit is for total mass of aerosols 1153 |
| Ethylene Glycol | 39.4 ppm Ceiling aerosol<br>100 mg/m³ Ceiling aerosol | Not determined | 5 mg/m³ TWA<br>10 mg/m³ MAC |

| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
|---|---|---|---|
| Silicon Dioxide | Not determined | Not determined | Not determined |
| Ethylene Glycol | Not determined | 10 mg/m³ TWA<br>60 mg/m³ TWA<br>20 mg/m³ STEL<br>125 mg/m³ STEL | 40 ppm STEL<br>104 mg/m³ STEL<br>Skin<br>20 ppm TWA<br>52 mg/m³ TWA |

**Notes**
No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

**Eye protection** Use eye protection according to EN 166, designed to protect against liquid splashes Safety glasses with side-shields Tightly fitting safety goggles

**Hand protection** Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Nitrile Rubber Butyl Rubber gloves
Break through time >480 minutes
Glove thickness 0.7 mm
Be aware that liquid may penetrate the gloves. Frequent change is advisable.

**Respiratory protection** In case of insufficient ventilation wear suitable respiratory equipment Respirator with combination filter for vapour/particulate (EN 141) Type A/P2 At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection** Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls**

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more

information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Transparent |
| **Odor** | Characteristic |
| **Color** | Water-white - Milky white |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | 9.5 - 11.2 | @ 25 °C |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | < -7 °C / 20 °F | |
| **Boiling point/range** | 100 °C / 212 °F | |
| **Flash point** | No information available | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | No information available | |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | 3-7 mPa s | |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | 1.195 - 1.223 gm/3 @ 20°C | |
| **Explosive properties** | No information available | |
| **Oxidizing properties** | No information available | |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid excessive heat for prolonged periods of time. Store at ambient conditions.

### 10.5 Incompatible materials

No materials to be especially mentioned.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** Inhalation of vapors in high concentration may cause irritation of respiratory system.

**Eye contact** May cause slight irritation.

**Skin contact** Prolonged contact may cause redness and irritation. Components of the product may be absorbed into the body through the skin.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Silicon Dioxide | = 7900 mg/kg ( Rat ) | > 5000 mg/kg ( Rabbit ) | > 58.8 mg/L ( Rat ) 4 h |
| Ethylene Glycol | = 7712 mg/kg (Rat)<br>ECHA Data | > 3500 mg/kg (Mouse)<br>ECHA Data | > 2.5 mg/l (Rat) 6 hour<br>ECHA Data |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Skin contact. Inhalation. Ingestion. Eye contact.

**Routes of entry** Inhalation. Skin absorption.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Large amounts will affect pH and harm aquatic organisms

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Silicon Dioxide | = 5000 mg/L LC50 Brachydanio rerio 96 h | = 440 mg/L EC50 Pseudokirchneriella subcapitata 72 h | = 7600 mg/L EC50 Ceriodaphnia dubia 48 h |
| Ethylene Glycol | 40000 - 60000 mg/L LC50 (Pimephales promelas) = 96 h<br><br>40761 mg/L LC50 (Oncorhynchus mykiss) = 96 h<br><br>27540 mg/L LC50 (Lepomis macrochirus) = 96 h<br><br>14 - 18 mL/L LC50 (Oncorhynchus mykiss) = 96 h<br><br>16000 mg/L LC50 (Poecilia reticulata) = 96 h<br><br>41000 mg/L LC50 (Oncorhynchus mykiss) = 96 h | 6500 - 13000 mg/L EC50 (Pseudokirchneriella subcapitata) = 96 h | 46300 mg/L EC50 (Daphnia magna) = 48 h |

### 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Silicon Dioxide | Not Applicable - Inorganic chemical. |
| Ethylene Glycol | Readily biodegradable |

### 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Silicon Dioxide | Not likely to bioaccumulate |
| Ethylene Glycol | log Pow -1.36(Calculated) Not likely to bioaccumulate |

### 12.4 Mobility

**Mobility**
The product is water soluble, and may spread in water systems. See component information below.

| Chemical Name | Mobility |
|---|---|
| Ethylene Glycol | Completely soluble |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| Ethylene Glycol | Not expected to adsorb on soil |

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

### 14.1. UN number
Not regulated

### 14.2. UN proper shipping name
The product is not covered by international regulation on the transport of dangerous goods

### 14.3 Hazard class(es)
**ADR/RID/ADN/ADG Hazard class** Not regulated
**IMDG/ANTAQ Hazard class** Not regulated
**ICAO/ANAC Hazard class/division** Not regulated

### 14.4 Packing group
**ADR/RID/ADN/ADG Packing group** Not regulated
**IMDG/ANTAQ Packing group** Not regulated
**ICAO/ANAC Packing group** Not regulated

### 14.5 Environmental hazard
No

### 14.6 Special precautions
Not applicable

### 14.7 Maritime transport in bulk according to IMO instruments

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

Ethylene Glycol
Schedule 6
Schedule 5

| | |
|---|---|
| **New Zealand Hazard Classification** | Not classified |
| **HSNO approval no.** | Not required |
| **Group number** | Not required |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | This product contains chemical(s) which is/are not listed on DSL but is/are listed on the NDSL. Volume restriction. |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Does not comply |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 28-Jun-2019 |
| **Revision date** | 02-Sep-2022 |
| **Version** | 4 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1 |
| Flammability | 0 |
| Physical hazard | 0 |
| PPE | E |

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# Safety Data Sheet

## MUDPUSH* II Spacer D182

**Revision date** 12-Jan-2024 **Supersedes Date:** 14-Jan-2021 **Version** 5

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** MUDPUSH* II Spacer D182
**Product code** D182
**Country Limitations** Japan : Contact GRC-C for further information.

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

–

**Contains**
Sulfonated organic polymer

Glucoside polymer

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Sulfonated organic polymer | Listed | Proprietary | 60-100 |
| Glucoside polymer | Listed | Proprietary | 30-60 |

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash skin thoroughly with soap and water. Get medical attention if irritation persists.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water Fog, Alcohol Foam, $CO_2$, Dry Chemical.

**Extinguishing media which must not be used for safety reasons**
High volume water jet.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
Dust may form explosive mixture in air.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx), Sulphur oxides.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**
Sweep up and shovel into suitable containers for disposal. Take precautionary measures against static discharges. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Material becomes slippery when wet. Use caution if wet.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits. Take precautionary measures against static discharges.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from open flames, hot surfaces and sources of ignition Keep away from direct sunlight. Incompatible with oxidizing agents

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** NUI = Nuisance dust, TWA 4mg/m$^3$ Respirable Dust, 10mg/m$^3$ Total Dust.
Control as an ACGIH particulate not otherwise specified (PNOS): 10 mg/m$^3$ (Inhalable); 3 mg/m$^3$ (Respirable) and an OSHA particulate not otherwise regulated (PNOR): 15 mg/m$^3$ (Total); 5 mg/m$^3$ (Respirable).

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Sulfonated organic polymer | Not determined | Not determined | Not determined |
| Glucoside polymer | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Sulfonated organic polymer | Not determined | Not determined | Not determined |
| Glucoside polymer | Not determined | Not determined | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Sulfonated organic polymer | Not determined | Not determined | Not determined |

| | | | |
|---|---|---|---|
| Glucoside polymer | Not determined | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Sulfonated organic polymer | Not determined | Not determined | Not determined |
| Glucoside polymer | Not determined | Not determined | Not determined |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Sulfonated organic polymer | Not determined | Not determined | Not determined |
| Glucoside polymer | Not determined | Not determined | Not determined |

**Notes**
No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Provide appropriate exhaust ventilation at places where dust is formed

**Personal protective equipment**

**Eye protection** Use eye protection according to EN 166, designed to protect against dusts Safety glasses with side-shields Tightly fitting safety goggles

**Hand protection** Wear gloves according to EN 374 to protect against skin effects from powders
Use protective gloves made of: Rubber Neoprene Nitrile
Frequent change is advisable

**Respiratory protection** In case of insufficient ventilation wear suitable respiratory equipment Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection** Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls**

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Solid |
| **Appearance** | Powder |
| **Color** | Red brown |
| **Odor** | Mild Sweet |

| Property | Values | Remarks |
|---|---|---|
| **pH** | No information available | |
| **pH @ dilution** | ~8 | 650g/l (Soln) |
| **Melting / freezing point** | No information available | |
| **Boiling point/range** | Not applicable | |
| **Flash point** | No information available | |
| **Evaporation rate (BuAc =1)** | Not applicable | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | Not applicable | |
| **Relative Vapor Density** | Not applicable | |
| **Specific gravity** | 1.3 | @ 20 °C |
| **Bulk density** | No information available | |
| **Water solubility** | Partly soluble Gel in contact with water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | > 242 °C / 468 °F | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | No information available | |
| **Explosive properties** | Suspended dust may present a dust explosion hazard | |
| **Oxidizing properties** | None known. | |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

Dust may form explosive mixture in air.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition. Keep away from direct sunlight. Take precautionary measures against static charges.

### 10.5 Incompatible materials

Oxidizing agents.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.

**Eye contact** Dust contact with the eyes can lead to mechanical irritation.

**Skin contact** Repeated exposure may cause skin dryness or cracking.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Sulfonated organic polymer | No data available | No data available | No data available |
| Glucoside polymer | No data available | No data available | No data available |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation. Skin contact. Eye contact.

**Routes of entry** Inhalation.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Sulfonated organic polymer | No information available | No information available | No information available |
| Glucoside polymer | No information available | No information available | No information available |

### 12.2 Persistence and degradability

No product level data available.

### 12.3 Bioaccumulative potential

Bioaccumulation is unlikely.

### 12.4 Mobility

**Mobility**
Partly soluble. Gel in contact with water.

**Mobility in soil**
No information available.

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. |
| **Contaminated packaging** | Empty containers should be taken for local recycling, recovery or waste disposal. |

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

| | |
|---|---|
| **New Zealand Hazard Classification** | Not classified |
| **HSNO approval no.** | Not required |
| **Group number** | Not required |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Does not comply |
| **Japan (ENCS)** | Complies - Volume restriction. |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Does not comply |
| **New Zealand (NZIoC)** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Poh Yue Cheong |
| **Supersedes Date:** | 14-Jan-2021 |
| **Revision date** | 12-Jan-2024 |
| **Version** | 5 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1 |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | E |

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# Safety Data Sheet

**SDS no.** D161

## Multi-Temperature Cement Retarder D161

**Revision date** 13-Jan-2025 **Supersedes Date:** 15-Mar-2021 **Version** 7

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Multi-Temperature Cement Retarder D161
**Product code** D161

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards**

| | |
|---|---|
| Reproductive toxicity | Category 2 |

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
WARNING

**Hazard Statements**
H361d - Suspected of damaging the unborn child

**Precautionary statements**
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

–

**Contains**
Sodium pentaborate

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

### Australian statement of hazardous/dangerous nature
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Sodium pentaborate | 234-522-7 | 12007-92-0 | 5-10 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification.
NOTE: CAS 12046-75-2 applies for New Zealand Only

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

| | |
|---|---|
| **Ingestion** | Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur. |
| **Skin contact** | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek medical attention if irritation occurs. |
| **Eye Contact** | Remove contact lenses, if worn. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues. |

### 4.2. Most important symptoms and effects, both acute and delayed

| | |
|---|---|
| **General advice** | The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible. |
| **Symptoms** | |
| **Inhalation** | Please see Section 11. Toxicological Information for further information. |
| **Ingestion** | Please see Section 11. Toxicological Information for further information. |
| **Skin contact** | Please see Section 11. Toxicological Information for further information. |
| **Eye contact** | Please see Section 11. Toxicological Information for further information. |

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water spray, dry chemical, carbon dioxide ($CO_2$), or foam.

**Extinguishing media which must not be used for safety reasons**
Do not use a solid water stream as it may scatter and spread fire.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Fire or high temperatures create: Harmful organic chemical fumes, Carbon oxides (COx), Oxides of phosphorus.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use. Not to be used by pregnant workers and workers who have recently given birth or who are breastfeeding.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Store away from heat and sources of ignition Avoid extreme temperatures Store above 0°C Store away from incompatibles, Strong reducing agents Strong oxidizing agents |
| **Storage class** | Chemical storage. |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure Controls/Personal Protection

## 8.1 Control parameters

**Exposure limits** Contains no substances with occupational exposure limit values

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Sodium pentaborate | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Sodium pentaborate | Not determined | Not determined | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Sodium pentaborate | Not determined | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Sodium pentaborate | Not determined | Not determined | Not determined |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Sodium pentaborate | Not determined | Not determined | Not determined |

**Notes**
No biological limit allocated

## 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Provide mechanical general and/or local exhaust ventilation to prevent release of vapor or mist into work environment.

**Personal protective equipment**

**Eye protection** Use eye protection according to EN 166, designed to protect against liquid splashes Safety glasses with side-shields Tightly fitting safety goggles

**Hand protection** Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training
Impervious gloves made of: Nitrile rubber Butyl rubber
Be aware that liquid may penetrate the gloves. Frequent change is advisable.

**Respiratory protection** No personal respiratory protective equipment normally required In case of insufficient ventilation wear suitable respiratory equipment Respirator with a vapor filter (EN 141) Chemical respirator with inorganic vapour cartridge (Grey B). At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection** Wear appropriate personal protective clothing to prevent skin contact Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

### 8.2.3 Environmental exposure controls

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Clear |
| **Color** | Colorless |
| **Odor** | Slight |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | 6.9 | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | ~0 °C / 32 °F | |
| **Boiling point/range** | 100 °C / 212 °F | |
| **Flash point** | Non-flammable | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | No information available | |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | 1.073 - 1.077 g/ml @ 20 °C | |

| | |
|---|---|
| **Explosive properties** | Not applicable |
| **Oxidizing properties** | None known. |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid heat, flames and other sources of ignition. Avoid extreme temperatures. Do not freeze.

### 10.5 Incompatible materials

Strong oxidizing agents. Strong reducing agents.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** Inhalation of vapors in high concentration may cause irritation of respiratory system.

**Eye contact** May cause slight irritation.

**Skin contact** Prolonged contact may cause redness and irritation.

**Ingestion** Ingestion may cause stomach discomfort. May cause damage to organs through prolonged or repeated exposure.

**Unknown acute toxicity** Not Applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Sodium pentaborate | No data available | LD50 > 2000 mg/kg bw | LC50 > 2.03 mg/l |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** H361d - Suspected of damaging the unborn child.

**Routes of Exposure** Skin contact. Eye contact. Ingestion.

**Routes of entry** Ingestion.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not Applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Sodium pentaborate | LC50: 600 mg/l 96h | No information available | LC50: 86 mg/l 48h |

### 12.2 Persistence and degradability

No product level data available.

### 12.3 Bioaccumulative potential

No product level data available.

### 12.4 Mobility

**Mobility**
Soluble in water.

**Mobility in soil**
No information available.

### 12.5 Other adverse effects

None known.

**12.6 Other information.**

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**
**ADR/RID/ADN/ADG Hazard class** Not regulated
**IMDG/ANTAQ Hazard class** Not regulated
**ICAO/ANAC Hazard class/division** Not regulated

**14.4 Packing group**
**ADR/RID/ADN/ADG Packing group** Not regulated
**IMDG/ANTAQ Packing group** Not regulated
**ICAO/ANAC Packing group** Not regulated

**14.5 Environmental hazard**
No

**14.6 Special precautions**
None

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

**New Zealand Hazard Classification** Classified

| | |
|---|---|
| **HSNO approval no.** | HSR002544 - Construction Products (Subsidiary Hazard) Group Standard 2020 |
| **Group number** | 6.8B |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies Volume restriction. |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Does not comply |
| **New Zealand (NZIoC)** | Complies CAS 12046-75-2 |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam |
| **Supersedes Date:** | 15-Mar-2021 |
| **Revision date** | 13-Jan-2025 |
| **Version** | 7 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1* |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | B |

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**SDS no.** U066
**Version** 4
**Revision date** 31-Mar-2022
**Supersedes Date:** 03-Sep-2018

# Safety Data Sheet
## Mutual Solvent U66

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Mutual Solvent U66
**Product code** U066

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Solvent in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards**

| | |
|---|---|
| Acute toxicity - Oral | Category 4 |
| Acute toxicity - Dermal | Category 4 |
| Acute toxicity - Inhalation (Vapors) | Category 4 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2 |

**Environmental hazards** Not classified

**Physical Hazards**

| | |
|---|---|
| Flammable Liquids | Category 4 |

### 2.2 Label elements

**Signal word**
WARNING

**Hazard Statements**
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H227 - Combustible liquid

**Precautionary statements**
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Supplementary precautionary statements**
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 - Rinse mouth
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P337 + P313 - If eye irritation persists: Get medical advice/attention
P362 + P364 - Take off contaminated clothing and wash it before reuse
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
P403 + P235 - Store in a well-ventilated place. Keep cool

**Contains**
2-butoxyethanol

### 2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

### Australian statement of hazardous/dangerous nature
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

### 3.1 Substances

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 2-butoxyethanol | 203-905-0 | 111-76-2 | 60-100 |

### 3.2 Mixtures

Not applicable

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek medical attention if irritation occurs.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

### 4.2. Most important symptoms and effects, both acute and delayed

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
P378 - Use dry sand, dry chemical or alcohol-resistant foam for extinction.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
combustible liquid. Vapors may form explosive mixture with air. Vapors are heavier than air and may spread along floors. Heating of containers may cause pressure rise, with risk of bursting.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx).

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Take precautionary measures against static discharges. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. Wash hands and face before breaks and immediately after handling the product Do not eat, drink or smoke when using this product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. Keep airborne concentrations below exposure limits. Take precautionary measures against static discharges. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from open flames, hot surfaces and sources of ignition Keep away from direct sunlight. Avoid contact |

with: Oxidizing agents Strong bases

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

**Packaging materials to be avoided** Aluminium Copper

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| 2-butoxyethanol | 25 ppm TWA<br>121 mg/m³ TWA | 50ppmSTEL<br>242mg/m³STEL<br>20ppmTWA<br>96.9mg/m³TWA | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| 2-butoxyethanol | Not determined | 20 ppm TWA | 20 ppm Ceiling<br>97 mg/m³ Ceiling<br>May cause substantial skin absorption<br>25 ppm ACL |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| 2-butoxyethanol | 5 mg/m³ MAC | Not determined | 25 ppm TWA<br>121 mg/m³ TWA<br>Possibility of significant uptake through the skin*1) |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| 2-butoxyethanol | 20 ppm TWA<br>96.7 mg/m³ TWA<br>Skin notation*3) | skin - potential for cutaneous absorption<br>50 ppm TWA<br>240 mg/m³ TWA | 5 mg/m³ MAC |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| 2-butoxyethanol | 50 ppm TWA | Not determined | 50 ppm STEL<br>246 mg/m³ STEL<br>Skin*2)<br>20 ppm TWA<br>98 mg/m³ TWA |

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

**Eye protection** Use eye protection according to EN 166, designed to protect against liquid splashes Tightly fitting safety goggles Safety glasses with side-shields

**Hand protection** Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training
Impervious gloves made of: Nitrile Butyl rubber Neoprene

| | |
|---|---|
| | Break through time >480 minutes<br>Glove thickness 0.4 mm<br>Be aware that liquid may penetrate the gloves. Frequent change is advisable. |
| **Respiratory protection** | When workers are facing concentrations above the exposure limit they must use appropriate certified respirators In case of inadequate ventilation wear respiratory protection Respirator with a vapor filter (EN 141) Use respirator with organic vapor protection (A, brown) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear appropriate personal protective clothing to prevent skin contact Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | No information available |
| **Odor** | Mild |
| **Color** | Colorless |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | No information available | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | -75 °C / -103 °F | |
| **Boiling point/range** | 171 °C / 339.8 °F | |
| **Flash point** | 67 °C / 152.6 °F | PMCC |
| **Evaporation rate (BuAc =1)** | = 0.06 | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | 10.6 % | |
| **Lower explosion limit** | 1.3 % | |
| **Vapor pressure** | 0.117 kPa | @ 20 °C |
| **Relative Vapor Density** | 4.1 (air = 1) | |
| **Specific gravity** | 0.9 | 20 °C |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | 230 °C / 446 °F | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | 3.3 mPa s | @ 20 °C |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | No information available | |

| | |
|---|---|
| **Explosive properties** | No information available |
| **Oxidizing properties** | No information available |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

Combustible liquid.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Avoid heat, flames and other sources of ignition. Keep away from direct sunlight. Take precautionary measures against static charges.

**10.5 Incompatible materials**

Oxidizing agents. Strong bases. Aluminum. Copper.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity**

| | |
|---|---|
| **Inhalation** | Harmful by inhalation. Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness, cessation of breathing. |
| **Eye contact** | Causes serious eye irritation. |
| **Skin contact** | Harmful in contact with skin. Causes skin irritation. May be absorbed through the skin in harmful amounts. |
| **Ingestion** | Harmful if swallowed. |
| **Unknown acute toxicity** | Not applicable. |

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 2-butoxyethanol | 1200 mg/kg (Guinea pigs) | > 2000 mg/kg (Rat) | 400 ppm ( Rabbit) |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation. Ingestion. Skin contact. Eye contact.

**Routes of entry** Ingestion. Inhalation. Skin absorption. Eye contact. Skin contact.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| 2-butoxyethanol | = 1490 mg/L LC50 Lepomis macrochirus 96 h<br>= 2950 mg/L LC50 Lepomis macrochirus 96 h | No information available | = 1698 - 1940 mg/L (LC50; Daphnia magna)<br>= 1720 mg/L (EC50; water flea) |

### 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| 2-butoxyethanol | Readily biodegradable |

### 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| 2-butoxyethanol | Not likely to bioaccumulate |

### 12.4 Mobility

**Mobility**
Soluble in water. See component information below.

| Chemical Name | Mobility |
|---|---|
| 2-butoxyethanol | Soluble in water |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| 2-butoxyethanol | No information available |

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

### 14.1. UN number
Not regulated

### 14.2. UN proper shipping name
The product is not covered by international regulation on the transport of dangerous goods

### 14.3 Hazard class(es)
**ADR/RID/ADN/ADG Hazard class** Not regulated
**IMDG/ANTAQ Hazard class** Not regulated
**ICAO/ANAC Hazard class/division** Not regulated

### 14.4 Packing group
**ADR/RID/ADN/ADG Packing group** Not regulated
**IMDG/ANTAQ Packing group** Not regulated
**ICAO/ANAC Packing group** Not regulated

### 14.5 Environmental hazard
No

**14.6 Special precautions**
Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

2-butoxyethanol
Schedule 6

| | |
|---|---|
| **New Zealand Hazard Classification** | Classified |
| **HSNO approval no.** | HSR001154 |
| **Group number** | Not applicable |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam |
| **Supersedes Date:** | 03-Sep-2018 |
| **Revision date** | 31-Mar-2022 |
| **Version** | 4 |

**This SDS has been revised in the following section(s)** All sections No changes with regard to classification have been made.

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 2* |
| Flammability | 2 |
| Physical hazard | 0 |
| PPE | X |

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**SDS no.** D264
**Version** 3
**Revision date** 05-Sep-2022
**Supersedes Date:** 19-Jul-2018

# Safety Data Sheet
## Nano-Sealant D264

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Nano-Sealant D264
**Product code** D264

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

–

**Contains**
Silicon Dioxide

Ethylene Glycol

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Silicon Dioxide | 231-545-4 | 7631-86-9 | 10-30 |
| Ethylene Glycol | 203-473-3 | 107-21-1 | 1-5 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification.

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water Fog, Alcohol Foam, $CO_2$, Dry Chemical.

**Extinguishing media which must not be used for safety reasons**
Do not use water jet.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Thermal decomposition can lead to release of irritating and toxic gases and vapors Carbon oxides (COx).

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Store at ambient conditions Avoid excessive heat for prolonged periods of time.

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** Because this product is a liquid, the dust-related Workplace Exposure Limits for the components do not apply.

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Silicon Dioxide | Not determined | 2mg/m³TWArespirable dust<br>10mg/m³TWAinhalable | Not determined |
| Ethylene Glycol | Not determined | 40ppmSTELvapour<br>104mg/m³STELvapour<br>10mg/m³TWAparticulate<br>20ppmTWAvapour<br>52mg/m³TWAvapour | 39.4 ppm Ceiling<br>100 mg/m³ Ceiling |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Silicon Dioxide | 10 mg/m³ TWA | Not determined | Not determined |
| Ethylene Glycol | Not determined | 100 mg/m³ STEL | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Silicon Dioxide | 1 mg/m³ MAC | 6.0 mg/m³ TWA | Not determined |
| Ethylene Glycol | Not determined | 125 mg/m³ TWA<br>50.0 ppm TWA<br>100 mg/m³ STEL | 50 ppm Ceiling mist and vapour<br>127 mg/m³ Ceiling mist and vapour |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Silicon Dioxide | Not determined | Not determined | 1 mg/m³ TWA<br>2 mg/m³ TWA<br>3 mg/m³ MAC<br>6 mg/m³ MAC<br>Fibrogenic substance in the form of |

| | | | |
|---|---|---|---|
| | | | condensation aerosol, containing >60% Silicon dioxide;limit is for total mass of aerosols 1151 Fibrogenic substance in the form of condensation aerosol, containing 10-60% Silicon dioxide;limit is for total mass of aerosols 1152 Fibrogenic substance also vitreous, in the form of disintegration aerosol;limit is for total mass of aerosols 1153 |
| Ethylene Glycol | 39.4 ppm Ceiling aerosol<br>100 mg/m³ Ceiling aerosol | Not determined | 5 mg/m³ TWA<br>10 mg/m³ MAC |

| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
|---|---|---|---|
| Silicon Dioxide | Not determined | Not determined | Not determined |
| Ethylene Glycol | Not determined | 10 mg/m³ TWA<br>60 mg/m³ TWA<br>20 mg/m³ STEL<br>125 mg/m³ STEL | 40 ppm STEL<br>104 mg/m³ STEL<br>Skin<br>20 ppm TWA<br>52 mg/m³ TWA |

**Notes**
No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

**Eye protection** — Use eye protection according to EN 166, designed to protect against liquid splashes Safety glasses with side-shields Tightly fitting safety goggles

**Hand protection** — Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Butyl Nitrile
Break through time >480 minutes
Glove thickness 0.7 mm
Be aware that liquid may penetrate the gloves. Frequent change is advisable.

**Respiratory protection** — No personal respiratory protective equipment normally required In case of insufficient ventilation wear suitable respiratory equipment Respirator with combination filter for vapour/particulate (EN 141) Type A/P2 At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection** — Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** — Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls**

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Transparent |
| **Odor** | Characteristic |
| **Color** | Water-white - Milky white |

| Property | Values | Remarks |
|---|---|---|
| **pH** | 9.5 - 11.2 | @ 25 °C |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | < -7 °C / 20 °F | |
| **Boiling point/range** | 100 °C / 212 °F | |
| **Flash point** | No information available | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | No information available | |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | 3-7 mPa s | |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | 1.195 - 1.223 gm/3 @ 20°C | |
| **Explosive properties** | No information available | |
| **Oxidizing properties** | No information available | |

### 9.2 Other information

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid excessive heat for prolonged periods of time. Store at ambient conditions.

### 10.5 Incompatible materials

No materials to be especially mentioned.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** Inhalation of vapors in high concentration may cause irritation of respiratory system.

**Eye contact** May cause slight irritation.

**Skin contact** Prolonged contact may cause redness and irritation. Components of the product may be absorbed into the body through the skin.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Silicon Dioxide | = 7900 mg/kg ( Rat ) | > 5000 mg/kg ( Rabbit ) | > 58.8 mg/L ( Rat ) 4 h |
| Ethylene Glycol | = 7712 mg/kg (Rat)<br>ECHA Data | > 3500 mg/kg (Mouse)<br>ECHA Data | > 2.5 mg/l (Rat) 6 hour<br>ECHA Data |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Skin contact. Inhalation. Ingestion. Eye contact.

**Routes of entry** Inhalation. Skin absorption.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Large amounts will affect pH and harm aquatic organisms

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Silicon Dioxide | = 5000 mg/L LC50 Brachydanio rerio 96 h | = 440 mg/L EC50 Pseudokirchneriella subcapitata 72 h | = 7600 mg/L EC50 Ceriodaphnia dubia 48 h |
| Ethylene Glycol | 40000 - 60000 mg/L LC50 (Pimephales promelas) = 96 h<br><br>40761 mg/L LC50 (Oncorhynchus mykiss) = 96 h<br><br>27540 mg/L LC50 (Lepomis macrochirus) = 96 h<br><br>14 - 18 mL/L LC50 (Oncorhynchus mykiss) = 96 h<br><br>16000 mg/L LC50 (Poecilia reticulata) = 96 h<br><br>41000 mg/L LC50 (Oncorhynchus mykiss) = 96 h | 6500 - 13000 mg/L EC50 (Pseudokirchneriella subcapitata) = 96 h | 46300 mg/L EC50 (Daphnia magna) = 48 h |

### 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Silicon Dioxide | Not Applicable - Inorganic chemical. |
| Ethylene Glycol | Readily biodegradable |

### 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Silicon Dioxide | Not likely to bioaccumulate |
| Ethylene Glycol | log Pow -1.36(Calculated) Not likely to bioaccumulate |

### 12.4 Mobility

**Mobility**
The product is water soluble, and may spread in water systems. See component information below.

| Chemical Name | Mobility |
|---|---|
| Ethylene Glycol | Completely soluble |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| Ethylene Glycol | Not expected to adsorb on soil |

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

### 14.1. UN number
Not regulated

### 14.2. UN proper shipping name
The product is not covered by international regulation on the transport of dangerous goods

### 14.3 Hazard class(es)
**ADR/RID/ADN/ADG Hazard class** Not regulated
**IMDG/ANTAQ Hazard class** Not regulated
**ICAO/ANAC Hazard class/division** Not regulated

### 14.4 Packing group
**ADR/RID/ADN/ADG Packing group** Not regulated
**IMDG/ANTAQ Packing group** Not regulated
**ICAO/ANAC Packing group** Not regulated

### 14.5 Environmental hazard
No

### 14.6 Special precautions
Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

Ethylene Glycol
Schedule 6
Schedule 5

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | This product contains chemical(s) which is/are not listed on DSL but is/are listed on the NDSL. Volume restriction. |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Does not comply |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 19-Jul-2018 |
| **Revision date** | 05-Sep-2022 |
| **Version** | 3 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information

National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1 |
| Flammability | 0 |
| Physical hazard | 0 |
| PPE | E |

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# Safety Data Sheet

## Retarder D013

**Revision date** 14-Aug-2024 **Supersedes Date:** 15-Jan-2020 **Version** 7

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Retarder D013
**Product code** D013

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**Contains** No hazardous components
**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria
Suspended dust may present a dust explosion hazard

### Australian statement of hazardous/dangerous nature
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

No classified ingredients, or those having occupational exposure limits, present above the level of disclosure.

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash skin thoroughly with soap and water. Seek medical attention if irritation occurs.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Seek medical attention if irritation occurs.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water Fog, Alcohol Foam, $CO_2$, Dry Chemical.

**Extinguishing media which must not be used for safety reasons**
Do not use a solid water stream as it may scatter and spread fire.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
Suspended dust may present a dust explosion hazard.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx), Sulphur oxides.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Keep people away from and upwind of spill/leak. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**

Sweep up and shovel into suitable containers for disposal. Take precautionary measures against static discharges. Use non-sparking tools and equipment. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. Take precautionary measures against static discharges. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from open flames, hot surfaces and sources of ignition Avoid contact with: Strong oxidizing agents Strong acids Strong alkalies. |
| **Storage class** | Chemical storage. |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

| | |
|---|---|
| **Exposure limits** | The product does not contain any hazardous materials with occupational exposure limits established. |

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation

**Personal protective equipment**
**Eye protection** Use eye protection according to EN 166, designed to protect against powders and dusts

| | |
|---|---|
| | Tightly fitting safety goggles Safety glasses with side-shields |
| **Hand protection** | Wear gloves according to EN 374 to protect against skin effects from powders Use protective gloves made of: Neoprene Nitrile PVC Frequent change is advisable |
| **Respiratory protection** | In case of insufficient ventilation wear suitable respiratory equipment Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Solid |
| **Appearance** | Powder Dust |
| **Color** | Light brown |
| **Odor** | Slight |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | No information available | |
| **pH @ dilution** | 3.5 - 5.1 | @ 10% aq solution |
| **Melting / freezing point** | No information available | |
| **Boiling point/range** | No information available | |
| **Flash point** | Not applicable | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | 1.2 | 20 °C |
| **Bulk density** | 500 kg/m$^3$ | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **Partition Coefficient (n-octanol/water)** | No information available | |

| | |
|---|---|
| **Density and/or Relative Density** | No information available |
| **Explosive properties** | Suspended dust may present a dust explosion hazard |
| **Oxidizing properties** | No information available |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

Dust may form explosive mixture in air.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static charges. Avoid dust formation.

**10.5 Incompatible materials**

Strong oxidizing agents. Strong acids. Strong alkalies.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity**

| | |
|---|---|
| **Inhalation** | Inhalation of dust in high concentration may cause irritation of respiratory system. |
| **Eye contact** | Dust may cause mechanical irritation. |
| **Skin contact** | Repeated exposure may cause skin dryness or cracking. |
| **Ingestion** | Ingestion may cause stomach discomfort. |
| **Unknown acute toxicity** | Not Applicable. |

| | |
|---|---|
| **LD50 Oral** | > 15000 mg/kg (Product) |

| | |
|---|---|
| **Sensitization** | This product does not contain any components suspected to be sensitizing. |
| **Mutagenic effects** | This product does not contain any known or suspected mutagens. |
| **Carcinogenicity** | This product does not contain any known or suspected carcinogens. |
| **Reproductive toxicity** | This product does not contain any known or suspected reproductive hazards. |
| **Routes of Exposure** | Inhalation. Skin contact. Eye contact. |
| **Routes of entry** | Inhalation. |
| **Specific target organ toxicity - Single exposure** | Not classified |
| **Specific target organ toxicity - Repeated exposure** | Not classified. |
| **Aspiration hazard** | Not Applicable. |

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

Inherently biodegradable.

### 12.3 Bioaccumulative potential

The product does not contain any substances expected to be bioaccumulating.

**12.4 Mobility**

**Mobility**
Soluble in water.

**Mobility in soil**
No information available.

**12.5 Other adverse effects**

None known.

**12.6 Other information.**

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. |
| **Contaminated packaging** | Empty containers should be taken for local recycling, recovery or waste disposal. |

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not Applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

**New Zealand Hazard Classification** Not classified

**HSNO approval no.** Not required

**Group number** Not required

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

## 16. Other Information

**Prepared by** Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse

**Supersedes Date:** 15-Jan-2020

**Revision date** 14-Aug-2024

**Version** 7

**This SDS has been revised in the following section(s)** All sections No changes with regard to classification have been made.

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier

National Chemical Inventories
National regulatory information
National occupational exposure limits

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**SDS no.** D151
**Version** 6
**Revision date** 01-Mar-2022
**Supersedes Date:** 08-Jan-2020

# Safety Data Sheet
## Calcium Carbonate D151

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Calcium Carbonate D151
**Product code** D151

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger New Zealand Limited
94 Paraite Road
Bell Block
New Plymouth
New Zealand.

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

_

**Contains**
Crystalline silica (impurity)

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria
Thermal decomposition can lead to release of irritating gases and vapors

## 3. Composition/information on Ingredients

**3.1 Substances**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Crystalline silica (impurity) | 238-878-4 | 14808-60-7 | <1 |

**3.2 Mixtures**

Not applicable

**Comments**
Naturally occuring mineral.
The product contains other ingredients which do not contribute to the overall classification.

This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash skin thoroughly with soap and water. Seek medical attention if irritation occurs.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

| | |
|---|---|
| **Inhalation** | Please see Section 11. Toxicological Information for further information. |
| **Ingestion** | Please see Section 11. Toxicological Information for further information. |
| **Skin contact** | Please see Section 11. Toxicological Information for further information. |
| **Eye contact** | Please see Section 11. Toxicological Information for further information. |

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx), Nitrogen oxides (NOx).

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading.

**Methods for cleaning up**
Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Protect from moisture Avoid contact with: Acids

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| Crystalline silica (impurity) | 0.1 mg/m³ TWA | 0.05mg/m³TWArespirable dust | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Crystalline silica (impurity) | Not determined | 0.025 mg/m³ TWA | 0.03 mg/m³ OEL |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Crystalline silica (impurity) | 1 mg/m³ MAC | 0.1 mg/m³ TWA | 0.05 mg/m³ TWA<br>Confirmed carcinogen |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Crystalline silica (impurity) | 0.1 mg/m³ TWA | Not determined | 1 mg/m³ TWA<br>3 mg/m³ MAC<br>Fibrogenic substance glass;in the form of disintegration aerosol;limit is for total mass of aerosols 1153<br>Fibrogenic substance containing >70% Silicon dioxide in dust;limit is for total mass of aerosols 1154 |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Crystalline silica (impurity) | 0.025 mg/m³ TWA | Not determined | Not determined |

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Keep airborne concentrations below exposure limits

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Use eye protection according to EN 166, designed to protect against powders and dusts Tightly fitting safety goggles Safety glasses with side-shields |
| **Hand protection** | Wear gloves according to EN 374 to protect against skin effects from powders Use protective gloves made of: Nitrile Neoprene Frequent change is advisable |
| **Respiratory protection** | In case of inadequate ventilation wear respiratory protection Suitable mask with particle filter P3 (European Norm 143) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing and gloves Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Solid |
| **Appearance** | Powder Dust |
| **Odor** | Odorless |
| **Color** | White |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | Not applicable | |
| **pH @ dilution** | 8.0 - 10.0 | @ 10% |
| **Melting / freezing point** | > 700 °C / > 1292 °F | |
| **Boiling point/range** | No information available | |
| **Flash point** | Not applicable | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | 2.7 - 2.8 | @ 20 °C |
| **Bulk density** | No information available | |
| **Water solubility** | Insoluble in water | |

| | |
|---|---|
| **Solubility in other solvents** | No information available |
| **Autoignition temperature** | No information available |
| **Decomposition temperature** | No information available |
| **Kinematic viscosity** | No information available |
| **Dynamic viscosity** | No information available |
| **Partition Coefficient (n-octanol/water)** | No information available |
| **Density and/or Relative Density** | No information available |
| **Explosive properties** | Not applicable |
| **Oxidizing properties** | None known. |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

Decomposes by reaction with strong acids.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Protect from moisture. Avoid dust formation.

**10.5 Incompatible materials**

Acids.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity**

| | |
|---|---|
| **Product information** | This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. |
| **Inhalation** | Inhalation of dust in high concentration may cause irritation of respiratory system. |
| **Eye contact** | Dust may cause mechanical irritation. |

**Skin contact** Prolonged contact may cause redness and irritation.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Crystalline silica (impurity) | No data available | No data available | No data available |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation.

**Routes of entry** Inhalation.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Listed on PLONOR list of OSPAR

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Crystalline silica (impurity) | LC50 Danio rerio (zebra fish) : > 10000 mg/l 96h | EC50: > 1000 mg/l 72h | LC50 Daphnia manga (Water flea): > 10000 mg/l 24h |

### 12.2 Persistence and degradability

See component information below.

| Chemical Name | Persistence and degradability |
|---|---|
| Crystalline silica (impurity) | Inorganic compound |

### 12.3 Bioaccumulative potential

See component information below.

| Chemical Name | Bioaccumulation |
|---|---|
| Crystalline silica (impurity) | Product/Substance is inorganic |

### 12.4 Mobility

**Mobility**
See component information below.

| Chemical Name | Mobility |
|---|---|
| Crystalline silica (impurity) | Insoluble in water |

**Mobility in soil**
See component information below.

| Chemical Name | Mobility in soil |
|---|---|
| Crystalline silica (impurity) | Not expected to adsorb on soil |

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

### 14.1. UN number

### 14.2. UN proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

### 14.3 Hazard class(es)

**ADR/RID/ADN/ADG Hazard class** Not regulated
**IMDG/ANTAQ Hazard class** Not regulated
**ICAO/ANAC Hazard class/division** Not regulated

### 14.4 Packing group

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

| | |
|---|---|
| **New Zealand Hazard Classification** | Not classified |
| **HSNO approval no.** | Not required |
| **Group number** | Not required |

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 08-Jan-2020 |

| | |
|---|---|
| **Revision date** | 01-Mar-2022 |
| **Version** | 6 |
| **This SDS has been revised in the following section(s)** | All sections There have been changes with regard to classification. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**Training Advice**
Follow general hygiene considerations recognized as common good workplace practices
Do not handle until all safety precautions have been read and understood

**HMIS classification**

| | |
|---|---|
| Health | 1* |
| Flammability | 0 |
| Physical hazard | 0 |
| PPE | E |

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**SDS no.** D075
**Version** 7
**Revision date** 23-Dec-2022
**Supersedes Date:** 12-Sep-2019

# Safety Data Sheet
## Silicate Additive D75

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** Silicate Additive D75
**Product code** D075

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

–

**Contains** No hazardous components
**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

This product does not contain any hazardous ingredients, or ingredients with national workplace exposure limits.

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**
None.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
Contact with metals may evolve flammable hydrogen gas.

**Hazardous combustion products**
Thermal decomposition can lead to release of toxic and corrosive gases/vapors

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Avoid spills and splashing during use. Do not breathe vapors or spray mist.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Keep at temperatures above > 32°F / 0°C Avoid contact with: Strong acids Metals Aluminum Zinc |
| **Storage class** | Chemical storage. |
| **Packaging materials to be avoided** | Metal Aluminium Zinc Steel |

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

| | |
|---|---|
| **Exposure limits** | The product does not contain any hazardous materials with occupational exposure limits established. |

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Use eye protection according to EN 166, designed to protect against liquid splashes Tightly fitting safety goggles Safety glasses with side-shields |
| **Hand protection** | Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training<br>Use protective gloves made of: PVC Rubber Neoprene Nitrile<br>Break through time >480 minutes<br>Glove thickness 0.4 mm<br>Be aware that liquid may penetrate the gloves. Frequent change is advisable. |
| **Respiratory protection** | No personal respiratory protective equipment normally required In case of insufficient ventilation wear suitable respiratory equipment Respirator with a vapor filter (EN 141)<br>Chemical respirator with inorganic vapour cartridge (Grey B). At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |

**Hygiene Measures** Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls**

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Aqueous solution |
| **Odor** | Odorless |
| **Color** | Colorless |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | 11 | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | - 1 °C / 30 °F | |
| **Boiling point/range** | 101 °C / 214 °F | |
| **Flash point** | Does not flash | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | 1.37 - 1.42 | @ 20 °C |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | 10-10000 mPa s | |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | No information available | |
| **Explosive properties** | No information available | |
| **Oxidizing properties** | No information available | |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | No information available |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

Contact with metals may evolve flammable hydrogen gas.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Keep at temperatures above > 32◦F / 0°C.

### 10.5 Incompatible materials

Aluminum. Zinc. Metals. Strong acids. Steel.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

| | |
|---|---|
| **Inhalation** | Inhalation of vapors in high concentration may cause irritation of respiratory system. |
| **Eye contact** | May cause slight irritation. |
| **Skin contact** | Prolonged contact may cause redness and irritation. |
| **Ingestion** | Ingestion may cause stomach discomfort. |
| **Unknown acute toxicity** | Not applicable. |
| **Sensitization** | This product does not contain any components suspected to be sensitizing. |
| **Mutagenic effects** | This product does not contain any known or suspected mutagens. |
| **Carcinogenicity** | This product does not contain any known or suspected carcinogens. |
| **Reproductive toxicity** | This product does not contain any known or suspected reproductive hazards. |
| **Routes of Exposure** | None known. |
| **Routes of entry** | No route of entry noted. |

| | |
|---|---|
| **Specific target organ toxicity - Single exposure** | Not classified |
| **Specific target organ toxicity - Repeated exposure** | Not classified. |
| **Aspiration hazard** | Not applicable. |

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

No product level data available.

### 12.3 Bioaccumulative potential

No product level data available.

### 12.4 Mobility

**Mobility**
Soluble in water.

**Mobility in soil**
No information available.

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. |
| **Contaminated packaging** | Empty containers should be taken for local recycling, recovery or waste disposal. |

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

| | |
|---|---|
| **New Zealand Hazard Classification** | Not classified |
| **HSNO approval no.** | Not required. |
| **Group number** | Not required. |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)**
**The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 12-Sep-2019 |
| **Revision date** | 23-Dec-2022 |
| **Version** | 7 |
| **This SDS has been revised in the following section(s)** | All sections No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1 |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | B |

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# Safety Data Sheet

## TIC* D65 Dispersant

**Revision date** 13-Mar-2024 **Supersedes Date:** 08-Jun-2021 **Version** 8

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** TIC* D65 Dispersant
**Product code** D065

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

–

**Contains**
Sodium sulfate (Impurity)

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

Combustible dust

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| Sodium sulfate (Impurity) | 231-820-9 | 7757-82-6 | 1-5 |

**3.2 Mixtures**

Not applicable

**Comments**
The product contains other ingredients which do not contribute to the overall classification.

## 4. First Aid Measures

**4.1 First aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek medical attention if irritation occurs.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water Fog, Alcohol Foam, $CO_2$, Dry Chemical.

**Extinguishing media which must not be used for safety reasons**
Do not use a solid water stream as it may scatter and spread fire.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
Suspended dust may present a dust explosion hazard.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx), Sulfur dioxide.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Keep away from combustible material. Avoid contact with heat, sparks, open flame, and static discharge. Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading.

**Methods for cleaning up**
Avoid dust formation. Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust. Take precautionary measures against static discharges. Use non-sparking tools and equipment. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid handling causing generation of dust. All equipment used when handling the product must be grounded. Avoid breathing dust; if exposed to high dust concentration, leave area immediately. Fine dust dispersed in air may ignite. Take precautionary measures against static discharges.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. Do not eat, drink or smoke when using this product Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. Provide appropriate exhaust ventilation at places where dust is formed. Keep airborne concentrations below exposure limits. Take precautionary measures against static discharges. Ensure all equipment is electrically grounded before beginning transfer operations. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from direct sunlight. Protect from moisture |
| **Storage class** | Chemical storage. |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

| | |
|---|---|
| **Exposure limits** | NUI = Nuisance dust, TWA 4mg/m$^3$ Respirable Dust, 10mg/m$^3$ Total Dust.<br>Control as an ACGIH particulate not otherwise specified (PNOS): 10 mg/m$^3$ (Inhalable); 3 mg/m$^3$ (Respirable) and an OSHA particulate not otherwise regulated (PNOR): 15 mg/m$^3$ (Total); 5 mg/m$^3$ (Respirable). |

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Sodium sulfate (Impurity) | Not determined | Not determined | Not determined |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| Sodium sulfate (Impurity) | Not determined | Not determined | Not determined |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| Sodium sulfate (Impurity) | 10 mg/m³ MAC | Not determined | Not determined |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| Sodium sulfate (Impurity) | Not determined | Not determined | 10 mg/m³ MAC |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| Sodium sulfate (Impurity) | Not determined | Not determined | Not determined |

**Notes**
No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Provide appropriate exhaust ventilation at places where dust is formed

**Personal protective equipment**

**Eye protection**
Use eye protection according to EN 166, designed to protect against powders and dusts
Tightly fitting safety goggles Safety glasses with side-shields

**Hand protection**
Wear gloves according to EN 374 to protect against skin effects from powders
Use protective gloves made of: Nitrile Neoprene
Frequent change is advisable

**Respiratory protection**
No personal respiratory protective equipment normally required In case of insufficient ventilation wear suitable respiratory equipment Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust) Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection**
Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures**
Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls**

**Environmental exposure**
Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Solid |
| **Appearance** | Powder |
| **Color** | Tan |
| **Odor** | Faint |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | Approximately 10 | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | No information available | |
| **Boiling point/range** | Not applied | |
| **Flash point** | Does not flash | |
| **Evaporation rate (BuAc =1)** | Not applied | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | Not applied | |
| **Relative Vapor Density** | Not applied | |
| **Specific gravity** | 1.35 - 1.45 | 20 °C |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **Partition Coefficient (n-octanol/water)** | No information available | |
| **Density and/or Relative Density** | No information available | |

| | |
|---|---|
| **Explosive properties** | Suspended dust may present a dust explosion hazard |
| **Oxidizing properties** | None known. |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

Dust may form explosive mixture in air.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid dust formation. Avoid contact with heat, sparks, open flame, and static discharge. Protect from moisture. Keep away from direct sunlight.

### 10.5 Incompatible materials

No materials to be especially mentioned.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** Inhalation of dust in high concentration may cause irritation of respiratory system.

**Eye contact** Dust may cause mechanical irritation.

**Skin contact** Prolonged contact may cause redness and irritation.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not Applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Sodium sulfate (Impurity) | > 10000 mg/kg ( Rat ) | No data available | > 2.4 mg/L ( Rat ) 4 h |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation. Skin contact. Eye contact.

**Routes of entry** Inhalation.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not classified.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
See component information below.

**Toxicity to fish**
See component information below.

**Toxicity to daphnia and other aquatic invertebrates**
See component information below.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Sodium sulfate (Impurity) | 13500 - 14500 mg/L LC50 Pimephales promelas 96 h<br>> 6800 mg/L LC50 Pimephales promelas 96 h<br>3040 - 4380 mg/L LC50 Lepomis macrochirus 96 h<br>= 13500 mg/L LC50 Lepomis macrochirus 96 h | No information available | = 2564 mg/L EC50 Daphnia magna 48 h |

### 12.2 Persistence and degradability

No product level data available.

### 12.3 Bioaccumulative potential

No product level data available.

### 12.4 Mobility

**Mobility**
Soluble in water.

**Mobility in soil**
No information available.

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not Applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

**New Zealand Hazard Classification** Not classified

**HSNO approval no.** Not required

**Group number** Not required

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Poh Yue Cheong |
| **Supersedes Date:** | 08-Jun-2021 |
| **Revision date** | 13-Mar-2024 |
| **Version** | 8 |
| **This SDS has been revised in the following section(s)** | 9. Physical and chemical properties No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1 |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | E |

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# Safety Data Sheet

## UNIFLAC-L D168A

**Revision date** 27-Sep-2024 **Supersedes Date:** 06-Sep-2023 **Version** 4

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** UNIFLAC-L D168A
**Product code** D168A

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**Contains** No hazardous components

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**
Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

This product does not contain any hazardous ingredients, or ingredients with national workplace exposure limits.

## 4. First Aid Measures

**4.1 First aid measures**

| | |
|---|---|
| **Inhalation** | If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult. |
| **Ingestion** | Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur. |
| **Skin contact** | Wash skin thoroughly with soap and water. Get medical attention if symptoms occur. |
| **Eye Contact** | Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues. |

**4.2. Most important symptoms and effects, both acute and delayed**

| | |
|---|---|
| **General advice** | The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible. |
| **Symptoms** | |
| **Inhalation** | Please see Section 11. Toxicological Information for further information. |
| **Ingestion** | Please see Section 11. Toxicological Information for further information. |
| **Skin contact** | Please see Section 11. Toxicological Information for further information. |
| **Eye contact** | Please see Section 11. Toxicological Information for further information. |

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water spray, dry chemical, carbon dioxide ($CO_2$), or foam.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx), Nitrogen oxides (NOx), Hydrogen cyanide (hydrocyanic acid).

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8. If spilled, take caution, as material can cause surfaces to become very slippery.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Do not flush with water. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use. If spilled, take caution, as material can cause surfaces to become very slippery.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place Protect from freezing Avoid contact with: Oxidizing agents |
| **Storage class** | Chemical storage. |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

| | |
|---|---|
| **Exposure limits** | The product does not contain any hazardous materials with occupational exposure limits established. |

**Notes**
No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Use eye protection according to EN 166, designed to protect against liquid splashes Tightly fitting safety goggles Safety glasses with side-shields |
| **Hand protection** | Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee |

| | |
|---|---|
| | training Use protective gloves made of: Neoprene Nitrile PVC<br>Be aware that liquid may penetrate the gloves. Frequent change is advisable. |
| **Respiratory protection** | No personal respiratory protective equipment normally required In case of insufficient ventilation wear suitable respiratory equipment Respirator with combination filter for vapour/particulate (EN 141) Type A/P2 At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. |
| **Skin and body protection** | Wear suitable protective clothing Eye wash and emergency shower must be available at the work place. |
| **Hygiene Measures** | Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use |

**8.2.3 Environmental exposure controls**

| | |
|---|---|
| **Environmental exposure** | Use appropriate containment to avoid environmental contamination See section 6 for more information |

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Hazy |
| **Color** | Clear - Pale yellow |
| **Odor** | Slight |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | 6 - 8 | |
| **pH @ dilution** | No information available | |
| **Melting / freezing point** | No information available | |
| **Boiling point/range** | No information available | |
| **Flash point** | Does not flash | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | No information available | |
| **Bulk density** | No information available | |
| **Water solubility** | Miscible with water. | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | 2000 - 4000 cPs | @ 20 °C |
| **Partition Coefficient (n-octanol/water)** | Not determined | |

| | |
|---|---|
| **Density and/or Relative Density** | No information available |
| **Explosive properties** | Not applicable |
| **Oxidizing properties** | None known. |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Protect from freezing.

**10.5 Incompatible materials**

Oxidizing agents.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity**

| | |
|---|---|
| **Inhalation** | Inhalation of vapors in high concentration may cause irritation of respiratory system. |
| **Eye contact** | May cause slight irritation. |
| **Skin contact** | Prolonged contact may cause redness and irritation. |
| **Ingestion** | Ingestion may cause stomach discomfort. |
| **Unknown acute toxicity** | Not Applicable. |

| | |
|---|---|
| **Sensitization** | This product does not contain any components suspected to be sensitizing. |
| **Mutagenic effects** | This product does not contain any known or suspected mutagens. |
| **Carcinogenicity** | This product does not contain any known or suspected carcinogens. |
| **Reproductive toxicity** | This product does not contain any known or suspected reproductive hazards. |
| **Routes of Exposure** | None known. |
| **Routes of entry** | No route of entry noted. |
| **Specific target organ toxicity - Single exposure** | Not classified |
| **Specific target organ toxicity - Repeated exposure** | Not classified. |
| **Aspiration hazard** | Not Applicable. |

### 11.2 Information on other hazards

| | |
|---|---|
| **Other information** | Key literature references and sources for data. See Section 16 for more information. |

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

No product level data available.

### 12.3 Bioaccumulative potential

No product level data available.

### 12.4 Mobility

**Mobility**
The product is miscible with water. May spread in water systems.

**Mobility in soil**
No information available.

**12.5 Other adverse effects**

None known.

**12.6 Other information.**

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. |
| **Contaminated packaging** | Empty containers should be taken for local recycling, recovery or waste disposal. |

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not Applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

| | |
|---|---|
| **New Zealand Hazard Classification** | Not classified |
| **HSNO approval no.** | Not required |
| **Group number** | Not required |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Does not comply |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Does not comply |
| **New Zealand (NZIoC)** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse |
| **Supersedes Date:** | 06-Sep-2023 |
| **Revision date** | 27-Sep-2024 |
| **Version** | 4 |
| **This SDS has been revised in the following section(s)** | Section 16: Other information<br>No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information

National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 0 |
| Flammability | 0 |
| Physical hazard | 0 |
| PPE | B |

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# Safety Data Sheet

## UNIFLAC-S D167A

**Revision date** 04-Apr-2024 **Supersedes Date:** 03-Nov-2021 **Version** 3

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** UNIFLAC-S D167A
**Product code** D167A

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

### 1.3 Details of the supplier of the safety data sheet

**Supplier**
Schlumberger Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
Level 5, 10 Telethon Avenue
Perth WA 6000

SDS@slb.com

### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

**GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
None

**Hazard Statements**
This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

_

**Contains**
2-methylpropan-2-ol (impurity)

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria
Combustible dust

## 3. Composition/information on Ingredients

**3.1 Substances**

| Chemical Name | EC No | CAS No | Weight-% |
|---|---|---|---|
| 2-methylpropan-2-ol (impurity) | 200-889-7 | 75-65-0 | 1-<5 |

**3.2 Mixtures**

Not applicable

## 4. First Aid Measures

### 4.1 First aid measures

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact** Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.

**Eye Contact** Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water spray, dry chemical, carbon dioxide ($CO_2$), or foam.

**Extinguishing media which must not be used for safety reasons**
None known.

### 5.2. Special hazards arising from the substance or mixture

**Unusual fire and explosion hazards**
Suspended dust may present a dust explosion hazard.

**Hazardous combustion products**
Fire or high temperatures create: Carbon oxides (COx), Nitrogen oxides (NOx), Ammonia, Hydrogen cyanide (hydrocyanic acid).

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Keep away from combustible material. Avoid contact with heat, sparks, open flame, and static discharge. Material becomes slippery when wet. Use caution if wet. Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**
Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**

Avoid dust formation. Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust. Take precautionary measures against static discharges. Use non-sparking tools and equipment. Material becomes slippery when wet. Use caution if wet. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**Handling**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid handling causing generation of dust. Material becomes slippery when wet. Use caution if wet. Avoid breathing dust; if exposed to high dust concentration, leave area immediately. Fine dust dispersed in air may ignite.

**Hygiene Measures**
Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits. Take precautionary measures against static discharges.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from open flames, hot surfaces and sources of ignition Avoid contact with: Strong acids Oxidizing agents

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** NUI = Nuisance dust, TWA 4mg/m³ Respirable Dust, 10mg/m³ Total Dust.
Control as an ACGIH particulate not otherwise specified (PNOS): 10 mg/m³ (Inhalable); 3 mg/m³ (Respirable) and an OSHA particulate not otherwise regulated (PNOR): 15 mg/m³ (Total); 5 mg/m³ (Respirable).

**Component Information**

| Chemical Name | Arabic | Australia | Egypt |
|---|---|---|---|
| 2-methylpropan-2-ol (impurity) | 100 ppm TWA<br>303 mg/m³ TWA | 150ppmSTEL<br>455mg/m³STEL<br>100ppmTWA<br>303mg/m³TWA | 100 ppm TWA<br>303 mg/m³ TWA |
| **Chemical Name** | **India** | **Indonesian** | **Japan** |
| 2-methylpropan-2-ol (impurity) | Not determined | 100 ppm TWA<br>303 mg/m³ TWA | 50 ppm OEL<br>150 mg/m³ OEL |
| **Chemical Name** | **Kazakhstan** | **Kuwait** | **New Zealand** |
| 2-methylpropan-2-ol (impurity) | 10 mg/m³ MAC | Not determined | 150 ppm STEL<br>455 mg/m³ STEL |

| | | | |
|---|---|---|---|
| | | | 100 ppm TWA<br>303 mg/m³ TWA |
| **Chemical Name** | **Malaysia** | **Philippines** | **Russia** |
| 2-methylpropan-2-ol (impurity) | 100 ppm TWA<br>303 mg/m³ TWA | 100 ppm TWA<br>300 mg/m³ TWA | 10 mg/m³ MAC |
| **Chemical Name** | **Thailand** | **Vietnam** | **Turkey** |
| 2-methylpropan-2-ol (impurity) | 100 ppm TWA | Not determined | Not determined |

**Notes**
No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**
Ensure adequate ventilation Provide appropriate exhaust ventilation at places where dust is formed

**Personal protective equipment**

**Eye protection** — Use eye protection according to EN 166, designed to protect against powders and dusts Tightly fitting safety goggles Safety glasses with side-shields

**Hand protection** — Wear gloves according to EN 374 to protect against skin effects from powders Use protective gloves made of:
Butyl rubber Neoprene Nitrile rubber
Frequent change is advisable

**Respiratory protection** — In case of insufficient ventilation wear suitable respiratory equipment Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust) Suitable mask with particle filter P3 (European Norm 143) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection** — Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** — Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls**

**Environmental exposure** — Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

**Physical state** — Solid
**Appearance** — Powder

| | |
|---|---|
| **Color** | White |
| **Odor** | None |

| **Property** | **Values** | **Remarks** |
|---|---|---|
| **pH** | No information available | |
| **pH @ dilution** | 5 - 7 | @ 0.5% solution |
| **Melting / freezing point** | > 150 °C / 302 °F | |
| **Boiling point/range** | No information available | |
| **Flash point** | Does not flash | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability** | Not applicable | |
| **Explosion limits:** | | |
| **Upper explosion limit** | No information available | |
| **Lower explosion limit** | No information available | |
| **Vapor pressure** | No information available | |
| **Relative Vapor Density** | No information available | |
| **Specific gravity** | 0.2 - 0.9 | |
| **Bulk density** | No information available | |
| **Water solubility** | Soluble in water | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **Partition Coefficient (n-octanol/water)** | Not determined | |
| **Density and/or Relative Density** | No information available | |

| | |
|---|---|
| **Explosive properties** | Suspended dust may present a dust explosion hazard |
| **Oxidizing properties** | None known. |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |

**Comments**
The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

Dust may form explosive mixture in air.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Avoid dust formation. Take precautionary measures against static charges. Keep away from open flames, hot surfaces and sources of ignition.

### 10.5 Incompatible materials

Strong acids. Oxidizing agents.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation** Inhalation of dust in high concentration may cause irritation of respiratory system.

**Eye contact** Dust may cause mechanical irritation.

**Skin contact** Prolonged contact may cause redness and irritation.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not Applicable.

**Toxicology data for the components**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| 2-methylpropan-2-ol (impurity) | = 2200 mg/kg ( Rat ) | > 2 g/kg ( Rabbit ) | > 10000 ppm ( Rat ) 4 h |

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation. Skin contact.

**Routes of entry** Inhalation.

**Specific target organ toxicity - Single exposure** Not classified

**Specific target organ toxicity - Repeated exposure** Not classified.

**Aspiration hazard** Not Applicable.

### 11.2 Information on other hazards

**Other information** Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**
This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

**Toxicology data for the components**

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| 2-methylpropan-2-ol (impurity) | 6130 - 6700 mg/L LC50 Pimephales promelas 96 h | > 1000 mg/L EC50 Desmodesmus subspicatus 72 h | = 933 mg/L EC50 Daphnia magna 48 h<br>4607 - 6577 mg/L EC50 Daphnia magna 48 h |

### 12.2 Persistence and degradability

No product level data available.

### 12.3 Bioaccumulative potential

No product level data available.

### 12.4 Mobility

**Mobility**
Soluble in water.

**Mobility in soil**
No information available.

### 12.5 Other adverse effects

None known.

### 12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

### 13.1 Waste treatment methods

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. |
| **Contaminated packaging** | Empty containers should be taken for local recycling, recovery or waste disposal. |

## 14. Transport information

**14.1. UN number**
Not regulated

**14.2. UN proper shipping name**
The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

| | |
|---|---|
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG/ANTAQ Hazard class** | Not regulated |
| **ICAO/ANAC Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG/ANTAQ Packing group** | Not regulated |
| **ICAO/ANAC Packing group** | Not regulated |

**14.5 Environmental hazard**
No

**14.6 Special precautions**
Not Applicable

**14.7 Maritime transport in bulk according to IMO instruments**
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**This safety data sheet complies with the requirements of:**
**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**
No poisons schedule number allocated

| | |
|---|---|
| **New Zealand Hazard Classification** | Not classified |
| **HSNO approval no.** | Not required |
| **Group number** | Not required |

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **Philippines (PICCS)** | Does not comply |
| **Japan (ENCS)** | Does not comply |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Does not comply |
| **New Zealand (NZIoC)** | Complies |
| **Eurasian Economic Union: Russian Inventory** | Complies |

## 16. Other Information

| | |
|---|---|
| **Prepared by** | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam |
| **Supersedes Date:** | 03-Nov-2021 |
| **Revision date** | 04-Apr-2024 |
| **Version** | 3 |
| **This SDS has been revised in the following section(s)** | Section 16: Other information No changes with regard to classification have been made. |

**Key literature references and sources for data**
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

**HMIS classification**

| | |
|---|---|
| Health | 1 |
| Flammability | 1 |
| Physical hazard | 1 |
| PPE | B |

**Disclaimer**
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