

DOCUMENT NO HSE-E-082_SUM	REVISION 0	DATE OF REVISION 3 SEPTEMBER 2014
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Senecio-03 Well

Additional Chemical Disclosure Summary Document

Permit: L1

TABLE OF CONTENTS

1.0	CONTACT	3
2.0	SENECIO-03 WELL	3
2.1	Introduction	3
2.2	Summary of proposed drilling activities.....	4
2.2.1	Senecio-03 Well.....	4
2.3	Products, additives, chemicals and other substances disclosure	5

LIST OF TABLES

Table 1	Management Documentation Senecio-03	4
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LIST OF APPENDIX

Appendix 1	Senecio-03 Chemical Disclosure Table
Appendix 2	Drilling Fluids MSDS's

1.0 CONTACT

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2.0 SENECIO-03 WELL

2.1 Introduction

The Senecio-03 well site is located within Permit L1, about 14.5 km east of Dongara and 367km north of Perth, Western Australia (Figure 2). The proposed Senecio-03 site is located within cleared agricultural land (private) in the North Perth Basin.

The Senecio-03 wellhead location is:

Surface Location: 29° 15' 11.09" S 115° 04' 48.87" E

Surface Location: 321565.9E 6671188.7 N

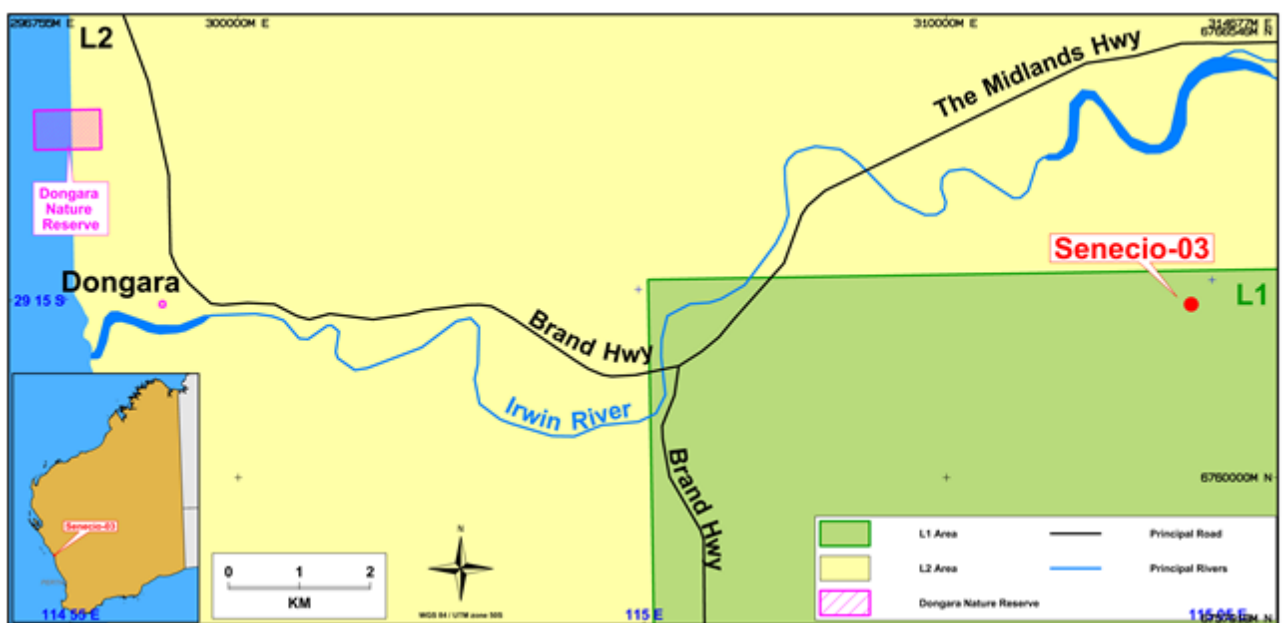


Figure 1 Senecio-03 location

2.2 Summary of proposed drilling activities

2.2.1 Senecio-03 Well

AWE Limited (AWE) is undertaking to drill a well in the Senecio Gas Field, about 14.5 km east of Dongara and 367km north of Perth, Western Australia (Figure 2). The proposed Senecio-03 site is located within cleared agricultural land (private) in the North Perth Basin. This is a single vertical well with the objective of reducing mapping and gas in place uncertainty of the discovery. Core samples are planned to be taken across formations of interest followed by wire line logging. Should logging results indicate the well maybe of future use; the well will be suspended with cemented casing to allow future access.

The drilling program will be managed in accordance with the commitments outlined in the Senecio-03 Environment Plan [HSE-E-078] Rev 3. For the purposed Senecio-03 drilling activities; there are no additional risks or impacts above or beyond the accepted EP [HSE-E-078] Rev 3] accepted on 03/06/2014.

Various aspects of the program will be managed under the documents listed in Table 2:

Table 1 Management Documentation Senecio-03

Senecio-03 Well			
Aspects	Document	Date	Status
Technical down hole and wellhead	Senecio-03 Appraisal Well Drilling Programme	23/06/2014	Approved
Environmental Management	Senecio-03 Environment Plan [HSE-E-078] Rev 3	03/06/2014	Approved
Products, additives, chemicals and other substances disclosure	Senecio-03 Environment Plan [HSE-E-078] Rev 3	03/06/2014	Approved
	Drover-01 and Senecio-03 Well Drilling Chemical Disclosure Bridging Document [HSE-E-081]	17/07/2014	Approved
	Senecio-03 Well Additional Chemical Disclosure Summary Document [HSE-E-082-SUM]	28/08/2014	Approved

2.3 Products, additives, chemicals and other substances disclosure

The objective of this Environmental Bridging Document is to disclose products, additives, chemicals and other substances required under the Petroleum and Geothermal Energy Resources (Environment) Regulations 2012.

Due to our extended logging periods AWE need to add a fluid loss chemical to the mud to extend break down times at high temperatures. The Newpark chemical name is Gagetrol and it is 100% carbomethyl starch, this therefore requires submission of the proposed chemical disclosure to the DMP in accordance with regulation 15(9) of the Regulations.

The Senecio-03 chemical disclosure table has been prepared in accordance with DMP Chemical Disclosure Guideline (Version 2: August 2013) and are attached within Appendix 1, the corresponding Safety Data Sheets are attached within Appendix 2.

APPENDIX

Appendix 1
Senecio-03 Chemical Disclosure Table

A. System Details

Operator	AWE Perth Pty Ltd
Project/Well	Senecio-03
System	Drilling
Total Volume of System	266.5 L

(*30% Contingency)

B. Product List

Product Name	Supplier	Purpose	Eco toxicity data	% Product in system fluid	MSDS Attached
Gagetrol	Rheochem/New Park	Drilling Aid	<u>Acute Toxicity : Carboxymethyl Starch 100%</u> Oral, mouse: LD50 = >27 gm/kg; Oral, rabbit: LD50 = >27 gm/kg; Oral, rat: LD50 = 27000 mg/kg; Skin, rabbit: LD50 = >2 gm/kg; <u>Biodegradation/bioaccumulation:</u> No information provided. Not expected to bioaccumulate.	100%	Yes
Total				100%	
*Includes 100% contingency volume					

C. Chemical List

Chemicals	CAS number	Mass fraction (%)
Carboxymethyl Starch	9057-061	100%
Total		100.00%

Appendix 2

Drilling Fluids SDS

SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name GAGETROL
Synonym(s) RHEOCHEM GAGETROL

1.2 Uses and uses advised against

Use(s) 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 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	Identification	Classification		Content
		GHS	Risk	
CARBOXYMETHYL STARCH	CAS: 9057-06-1	Not Available	Not Available	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 Poison 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 No information provided.

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. 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.

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 use(s)

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 Use engineering controls to eliminate potential dust exposure.

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	OFF-WHITE POWDER
Odour	SLIGHT ODOUR
Flammability	COMBUSTIBLE
Flash point	NOT AVAILABLE
Boiling point	NOT AVAILABLE
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	9.0 to 10.5 (4 % solution)
Vapour density	NOT AVAILABLE
Specific gravity	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 (eg. 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 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.
Sensitization	This product is not known to be a skin or respiratory sensitiser.
Mutagenicity	No evidence of mutagenic effects.

PRODUCT NAME GAGETROL

Carcinogenicity	No evidence of carcinogenic effects.
Reproductive	No evidence of reproductive effects.
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

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 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 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.

PRODUCT NAME GAGETROL

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 PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as 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: 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 ChemAlert 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
	GHS	Globally Harmonized System
	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
	PEL	Permissible Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
	ppm	Parts Per Million
	REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
	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

Revision history

Revision	Description
2.0	Converted to GHS.
1.1	Standard SDS Review
1.0	Initial SDS Creation

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.

PRODUCT NAME GAGETROL

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