Safety Data Sheet
Liquid Breaker Aid J318

1. Identification of the substance/preparation and of the Company/undertaking

1.1 Product identifier

Product name Liquid Breaker Aid J318
Product code J318

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

Recommended use Used as a fracturing additive in oilfield applications

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier identification
Schlumberger Oilfield Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
256 St. Georges Terrace, Perth WA 6000
+ 47 920 12570
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

Regulation (EC) No. 1272/2008

Health hazards Not classified

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label Elements

Signal word
None

-

-

The substance/preparation is non-dangerous in accordance with Directive(s) 67/548/EEC with amendments and/or 1999/45/EC with amendments

Indication of danger
Not Classified

Contains

2,2`,2"-nitrilotriethanol

2.3 Other data

Not classified as PBT/vPvB by current EU criteria

3. Composition/information on Ingredients

3.1 Substances

Not Applicable

3.2 Mixtures

Component	EC-No.	CAS-No	Weight % - range	Classification (67/548)	Classification (Reg. 1272/2008)	REACH registration number
2,2`,2"-nitrilotriethanol	203-049-8	102-71-6	60-100	-	Not classified	01-21194866482-31-xxxx

Other ingredients
Trade Control Substance EU - Control of Exports of Dual Use Items (1334/2000)
Comments
No classified hazards The product contains other ingredients which do not contribute to the overall classification.

4. First aid measures

4.1 Description of 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 removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.

Eye contact — Remove contact lenses. 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.
Main 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
Dry chemical, CO_2, alcohol-resistant foam or water spray.

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

5.2 Special hazards arising from the substance or mixture

Precautions against fire and explosion
None known.

Hazardous combustion products
Heating or fire can release toxic gas.

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 materials 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-combustable 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 breathing vapours or mists. Avoid contact with skin and eyes. 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 no 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	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight Store between 20 - 40°C Store away from heat and sources of ignition Store away from incompatibles, Acids Oxidizing agents
Storage class	Chemical storage.
Packaging material	Use specially constructed containers only

7.3 Specific end uses

See also Section 1.2.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Component	EU OEL - Third List	Austria	Australia	Denmark
2,2`,2"-nitrilotriethanol	Not determined	Not determined	5 mg/m³ TWA	0.5 ppm TWA 3.1 mg/m³ TWA

Component	Finland	France	Germany	Hungary
2,2`,2"-nitrilotriethanol	Not determined	Not determined	Not determined	Not determined

Component	Ireland	Italy	Netherlands	Norway
2,2`,2"-nitrilotriethanol	Not determined	Not determined	Not determined	10 mg/m³ STEL 5 mg/m³ TWA

Component	Poland	Portugal	Romania	Russia
2,2`,2"-nitrilotriethanol	Not determined	5 mg/m³ TWA	Not determined	3 mg/m³ MAC

Component	Spain	Switzerland	Turkey	UK
2,2`,2"-nitrilotriethanol	5 mg/m³ VLA-ED	20 mg/m³ STEL inhalable 5 mg/m³ MAK inhalable	Not determined	Not determined

Component	ACGIH TLV	TWA / C
2,2`,2"-nitrilotriethanol	5 mg/m³	Not Determined

Derived No Effect Level (DNEL)

Long term exposure local effects

2,2`,2"-nitrilotriethanol

Inhalation	5 mg/m³

Long term exposure systemic effects

2,2`,2"-nitrilotriethanol

Dermal	6.3 mg/kg bw/day
Inhalation	5 mg/m³

Predicted No Effect Concentration (PNEC) .

2,2`,2"-nitrilotriethanol

Fresh Water	0.32 mg/L
Sea Water	0.032 mg/L
Fresh water sediment	1.7 mg/kg
Sea sediment	0.17 mg/kg
Soil	0.151 mg/kg
Impact on Sewage Treatment	10 mg/L
Intermittent release	5.12 mg/L

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 measures to reduce exposure

Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required.

Personal protective equipment

Eye protection	It is good practice to wear goggles when handling any chemical. Tightly fitting safety goggles.
Hand protection	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, Use respirator with organic vapor protection (A, brown).
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.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Aqueous solution
Odour	Ammoniacal
Colour	Colourless
Odor threshold	Not applicable

Property	**Values**	**Remarks**
pH	No information available	
pH @ dilution		
Melting/freezing point	<-5 °C	
Boiling point/range	No information available	
Flash Point	204 °C	Cleveland Open Cup (COC)
Evaporation rate		
Flammability (solid, gas)	Not Applicable	
Flammability Limits 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	1.12	@ 20°C.
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity		
Viscosity, dynamic	No information available	
Log Pow	-2.3	

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 VALUE	No information available

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 polymerisation does not occur.

10.4 Conditions to avoid

S16 - Keep away from sources of ignition - No smoking. Heat. Keep away from direct sunlight. Store between 20 - 40°C.

10.5 Incompatible materials

Strong oxidising agents. Strong acids.

10.6 Hazardous decomposition products

See also section 5.2.

11. Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

Inhalation	Inhalation of vapours 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.
Acute toxicity	.

Component	LD50 Oral	LD50 Dermal	LD50 Inhalation
2,2`,2"-nitrilotriethanol	= 4190 mg/kg (Rat)	> 16 mL/kg (Rat) > 2000 mg/kg (Rabbit)	No data available

Sensitisation	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	None known.
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	No hazard from product as supplied.

12. Ecological Information

12.1 Toxicity

Ecotoxicity effects
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.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
2,2`,2"-nitrilotriethanol 102-71-6 (60-100)	10600 - 13000 mg/L LC50 (Pimephales promelas) = 96 h 450 - 1000 mg/L LC50 (Lepomis macrochirus) = 96 h 1000 mg/L LC50 (Pimephales promelas) = 96 h	216 mg/L EC50 (Desmodesmus subspicatus) = 72 h 169 mg/L EC50 (Desmodesmus subspicatus) = 96 h	1386 mg/L EC50 (Daphnia magna) = 24 h

12.2 Persistence and degradability

Product is biodegradable.

12.3 Bioaccumulative potential

The product does not contain any substances expected to be bioaccumulating.

Log Pow
-2.3

12.4 Mobility in soil

Mobility
The product is water soluble, and may spread in water systems.

12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

12.6 Other adverse effects.

None known.

13. Disposal Considerations

13.1 Waste treatment methods

Waste from residues / unused products	Dispose of as special waste in compliance with local and national regulations.
Contaminated packaging	Dispose of contents/container to an approved waste disposal plant. Do not puncture or incinerate cans.
EWC waste disposal No.	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: EWC waste disposal No: Waste Code: 07 07 99

14. Transport Information

The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA,ADR/RID/ADG).

14.1 UN number
Not regulated

14.2 Proper shipping name
Not regulated

14.3. Hazard class(es)

Hazard class	Not regulated
IMDG Page	Not regulated
ICAO = International Civil Aviation Organization	Not regulated

14.4 Packing group

Packing group	Not regulated
Packing group	Not regulated
ICAO Packing group	Not regulated

14.5 Environmental hazard
No

14.6 Special precautions
Not Applicable

14.7 Transport in bulk according to Annex 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

Australian Standard for the Uniform Scheduling of Drugs and Poisons

2,2`,2"-nitrilotriethanol
Schedule 5

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

International inventories

USA, Toxic Substances Control Act inventory (TSCA)	Complies
European Union - EINECS and ELINCS	Complies
Canada, Domestic Substance List (DSL)	Complies
Philippines (PICCS)	Complies
Inventory - Japan - Existing and New Chemicals list	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korea (KECL)	Complies
Inventory - New Zealand - Inventory of Chemicals (NZIoC)	Complies

U.S. Federal and State Regulations

Component	SARA 302 / TPQs	SARA 313	CERCLA RQ
2,2`,2"-nitrilotriethanol	N/A	N/A	N/A

15.2 Chemical Safety Report

No information available

16. Other Information

Prepared by Global Chemical Regulatory Compliance (GCRC)

Supercedes date	12/Apr/2011
Revision date	15/May/2014
Version	2
The following sections have been revised	SDS fully updated in the new database.

Text of R phrases mentioned in Section 3
Not classified

Full text of H-Statements referred to under sections 2 and 3

Not classified

Disclaimer
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