



Safety Data Sheet

D-D†

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

1.1 Product identifier

Product name D-D†
Product code MI10197
Synonyms DRILLING DETERGENT, D-D EXPORT

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

Recommended Use Drilling fluid additive. Lubricant
Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier
M-I Australia Pty Ltd
Level 5
256 St. George Terrace
Perth
WA 6000
T= 08 9440 2900
MISDS@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

Classification according to (EC) No. 1272/2008

Health hazards

Serious eye damage/eye irritation	Category 1
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Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements



Signal word
DANGER

Hazard statements

H318 - Causes serious eye damage

Precautionary Statements - EU (§28, 1272/2008)

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

P273 - Avoid release to the environment

P501 - Dispose of contents/container in accordance with local regulations.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Indication of danger

Xi - Irritant

R-code(s)

R41

Contains

Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl)

Propan-2-ol

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16.

2.3 Other data

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

Component	EC-No.	CAS-No	Weight % - range	Classification (67/548)	Classification (Reg. 1272/2008)	REACH registration number
Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl)	931-329-6	68155-07-7	>=3 - <5	Xi; R38/41 N; R51/53	Skin Irrit. 2 (H315) Eye Damage 1 (H318) Aquatic Chronic 2 (H411)	01-2119490100-53-x xxx
Propan-2-ol	200-661-7	67-63-0	1 - <3	F; R11 Xi; R36 R67	Flam. Liq. 2(H225) STOT SE 3(H336) Eye Irrit. 2(H319)	01-2119457558-25-x xxx

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 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. Continue to rinse for at least 15 minutes. 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.

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

Use extinguishing media appropriate for surrounding material.

Extinguishing media which shall 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 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-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. Wash hands before eating, drinking or smoking. 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 frost.

Storage class Chemical storage.

Packaging material Plastic container Use specially constructed containers only

7.3 Specific end uses

See Section 1.2.

8. Exposure controls/personal protection

8.1 Control parameters

Exposure limits No biological limit allocated

Component	EU OEL	Austria	Australia	Denmark
Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl)	Not determined	Not determined	Not determined	Not determined
Propan-2-ol	Not determined	Not determined	400 ppm TWA; 983 mg/m ³ TWA 500 ppm STEL; 1230 mg/m ³ STEL	200 ppm TWA 490 mg/m ³ TWA

Component	Finland	France	Germany	Hungary
Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl)	Not determined	Not determined	Not determined	Not determined
Propan-2-ol	Not determined	Not determined	200 ppm TWA 500 mg/m ³ TWA	Not determined

Component	New Zealand	Italy	Netherlands	Norway
Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl)	Not Determined	Not determined	Not determined	Not determined
Propan-2-ol	500 ppm STEL 1230 mg/m ³ STEL 400 ppm TWA 983 mg/m ³ TWA	Not determined	Not determined	100 ppm TWA 245 mg/m ³ TWA 150 ppm STEL 306.25 mg/m ³ STEL

Component	Poland	Portugal	Romania	Russia
Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl)	Not determined	Not determined	Not determined	Not determined
Propan-2-ol	1200 mg/m ³ STEL NDSch 900 mg/m ³ TWA NDS	400 ppm STEL VLE-CD 200 ppm TWA	81 ppm TWA; 200 mg/m ³ TWA	50 mg/m ³ STEL vapor 10 mg/m ³ TWA vapor

Component	Spain	Switzerland	Turkey	UK
Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl)	Not determined	Not determined	Not determined	Not determined

Propan-2-ol	400 ppm STEL 1000 mg/m ³ STEL 200 ppm TWA VLA-ED 500 mg/m ³ TWA VLA-ED	400 ppm STEL 1000 mg/m ³ STEL 200 ppm TWA MAK 500 mg/m ³ TWA MAK	Not determined	500 ppm STEL 1250 mg/m ³ STEL 400 ppm TWA 999 mg/m ³ TWA
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Derived No Effect Level (DNEL)

Long term exposure local effects

Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl)

Dermal 0.09 mg/cm²

Long term exposure systemic effects

Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl)

Dermal 4.16 mg/kg
Inhalation 73.4 mg/m³

Propan-2-ol

Dermal 888 mg/kg
Inhalation 500 mg/m³

Predicted No Effect Concentration (PNEC)

Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl)

Fresh water 7 µg/L
Sea water 0.7 µg/L
Fresh water sediment 42.4 µg/kg
Soil 18.9 µg/kg
Impact on sewage treatment 0.83 g/L
Intermittent release 24 µg/L

Propan-2-ol

Fresh water 140.9 mg/L
Sea water 140.9 mg/L
Fresh water sediment 552 mg/kg
Sea sediment 552 mg/kg
Soil 28 mg/kg
Impact on sewage treatment 2251 mg/L
Intermittent release 140.9 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. Provide mechanical general and/or local exhaust ventilation to prevent release of vapor or mist into work environment.

Personal protective equipment

Eye protection

Chemical splash goggles and/or face shield.

Hand protection

Use protective gloves made of: Neoprene, Nitrile, 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), 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.



9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Odor	Slight Lemon
Color	Colorless
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	8.0	
pH @ dilution	8.2	@ 1%
Melting/freezing point	No information available	
Boiling point/range	100 °C / 212 °F	
Flash point	94 °C / 201 °F	P/M Pensky-Martens
Evaporation rate (BuAc =1)	No information available	
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	1.01 - 1.02	@ 20 °C
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	Not determined	

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

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 frost.

10.5 Incompatible materials

No materials to be especially mentioned.

10.6 Hazardous decomposition products

See also 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 Ingestion may cause stomach discomfort.

Unknown acute toxicity Not Applicable.

LD50 Oral > 2000 mg/kg (rat) Calculated

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl)	No data available	No data available	No data available
Propan-2-ol	= 1870 mg/kg (Rat)	= 4059 mg/kg (Rabbit)	= 72600 mg/m ³ (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	Eye contact.
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

EC50/LC50 (D-D) >100 mg/l

This product contains an ingredient that is classified, according to European regulations, as "harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment" However, at the concentration present, this preparation is not expected to present significant adverse environmental 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.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Amides, C8-18 (even numbered) and C18-unsatd., N, N-bis(hydroxyethyl)	No information available	No information available	No information available
Propan-2-ol	9640 mg/L LC50 (Pimephales promelas) = 96 h 1400000 µg/L LC50 (Lepomis macrochirus) = 96 h 11130 mg/L LC50 (Pimephales promelas) = 96 h	1000 mg/L EC50 (Desmodesmus subspicatus) = 72 h 1000 mg/L EC50 (Desmodesmus subspicatus) = 96 h	13299 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 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 in accordance with local regulations.
Contaminated packaging	Empty containers should be taken for local recycling, recovery or waste disposal.
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: 07 06 01

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)

ADR/RID/ADN Hazard class	Not regulated
IMDG Hazard class	Not regulated
ICAO Hazard class/division	Not regulated

14.4 Packing group

ADR/RID/ADN Packing Group	Not regulated
IMDG 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 MISDS@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

Germany, Water Endangering Classes (VwVwS) Water endangering class = 1

Australian Standard for the Uniform Scheduling of Drugs and Poisons

No Poisons Schedule number allocated

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.

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).

ADG Code – Australian Dangerous Goods Code.

Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

International inventories

USA (TSCA)	Complies
European Union (EINECS and ELINCS)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Does not Comply
Japan (ENCS)	Does not Comply
China (IECSC)	Complies
Australia (AICS)	Complies

Korean (KECL)
New Zealand (NZIoC)

Complies
Does not Comply

Contact REACH@miswaco.slb.com for REACH information.

15.2 Chemical Safety Report

No information available

16. Other information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sarah Malone
Supersedes date	02/Feb/2011
Revision date	10/Mar/2015
Version	6
The following sections have been revised	This SDS has been made in a new database and therefore a new layout. There have been changes with regard to classification, Updated according to GHS/CLP.

Text of R phrases mentioned in Section 2 and 3

R11 - Highly flammable
R36 - Irritating to eyes
R38 - Irritating to skin
R41 - Risk of serious damage to eyes
R67 - Vapors may cause drowsiness and dizziness

R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

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

H318 - Causes serious eye damage
H225 - Highly flammable liquid and vapor
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness
H411 - Toxic to aquatic life with long lasting effects

†A mark of M-I L.L.C.

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.