

Safety data sheet number PID20355

Version 2

Revision date 20/Apr/2017

Supercedes date 20/Jan/2017



Safety Data Sheet

LUTOHIB

(MIL092)

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

1.1 Product identifier

Product name LUTOHIB
(MIL092)
Product code PID20355
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 Shale inhibitor.

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier

M-I Drilling Fluids UK Limited
C/O Schlumberger
Enterprise Drive
Westhill Industrial Estate
Westhill, AB32 6TQ
Scotland UK
+47 51577424

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 Regulation (EC) No. 1272/2008 [CLP]

Health hazards

Skin corrosion/irritation	Category 1 Subcategory 1B
Serious eye damage/eye irritation	Category 1

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements



Signal word

DANGER

Hazard statements

H314 - Causes severe skin burns and eye damage

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

P260 - Do not breathe dust/fume/gas/mist/vapours/spray

P280 - Wear protective gloves/protective clothing/eye protection/face protection

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

P310 - Immediately call a POISON CENTER or doctor/ physician

P501 - Dispose of contents/containers in accordance with local regulations

Supplementary precautionary statements

P264 - Wash face, hands and any exposed skin thoroughly after handling

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

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

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Contains

Propylene glycol diamine, 2-amino-, diether with Propylene

2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

3. Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical Name	EC No	CAS No	Weight-%	Classification according to 67/548/EEC	Regulation (EC) No 1272/2008	REACH registration number
Propylene glycol diamine, 2-amino-, diether with Propylene	Polymer	9046-10-0	30-70	C;R34	Skin Corr. 1B (H314)	No data available

Comments

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

4. First aid measures

4.1 First Aid

- 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. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
- 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. 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.

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

Water Fog, Alcohol Foam, CO₂, 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 toxic and corrosive gases/vapours

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. Do not get on skin or clothing. Wash thoroughly after handling. Avoid contact with eyes. Do not breathe vapours or spray mist. 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. Dyke 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. Keep away from heat and sources of ignition. Do not get in eyes, on skin or on 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 before eating, drinking or smoking 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 Avoid contact with: Acids
- Storage class** Corrosive storage.
- Packaging materials** 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 Contains no substances with occupational exposure limit values

Chemical Name	EU OEL - Third List	Austria	Australia	Denmark
Propylene glycol diamine, 2-amino-, diether with Propylene	Not determined	Not determined	Not determined	Not determined
Chemical Name	Malaysia	France	Germany	Hungary
Propylene glycol diamine, 2-amino-, diether with Propylene	Not determined	Not determined	Not determined	Not determined
Chemical Name	New Zealand	Italy	Netherlands	Norway
Propylene glycol diamine, 2-amino-, diether with Propylene	Not determined	Not determined	Not determined	Not determined
Chemical Name	Poland	Portugal	Romania	Russia
Propylene glycol diamine, 2-amino-, diether with Propylene	Not determined	Not determined	Not determined	Not determined
Chemical Name	Spain	Switzerland	Turkey	UK
Propylene glycol diamine, 2-amino-, diether with Propylene	Not determined	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 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

Eye protection must conform to standard EN 166. 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: Nitrile Neoprene Rubber

Glove thickness >480 mm

Break through time 0.5 minutes

Be aware that liquid may penetrate the gloves. Frequent change is advisable.

Respiratory protection

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	Oily
Odour	Characteristic
Colour	Light brown - Black
Odour threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	>= 7	(Neat)
pH @ dilution		
Melting / freezing point	No information available	
Boiling point/range	No information available	
Flash point	No information available	
Evaporation rate	No information available	

Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapour pressure	No information available	
Vapour density	No information available	
Specific gravity	No information available	
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	30 mm ² /s	@ 20 °C
Dynamic viscosity	No information available	
log Pow	No information available	
Explosive properties	No information available	
Oxidising properties	No information available	

9.2 Other information

Pour point	-30°C / -22°F
Molecular weight	No information available
VOC content(%)	No information available
Density	1.15 ± 0.03 kg/m ³ @ 20°C

10. Stability and reactivity

10.1 Reactivity

Corrosive.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerisation

Not known.

10.4 Conditions to avoid

Avoid heat, flames and other sources of ignition.

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

Inhalation	Vapors may irritate throat and respiratory system. Inhaled corrosive substances can lead to a toxic edema of the lungs.
Eye contact	Causes burns. May cause irreversible damage to eyes.
Skin contact	Causes severe skin burns.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Unknown acute toxicity	Not applicable.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Propylene glycol diamine, 2-amino-, diether with Propylene	= 242 mg/kg (Rat)	= 360 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 This product does not contain any known or suspected reproductive hazards.

Routes of exposure Skin contact. Eye contact. Inhalation.

Routes of entry Skin contact. Eye contact. Inhalation.

Specific target organ toxicity - Single exposure Not classified

Specific target organ toxicity - Repeated exposure Not classified.

Aspiration hazard Not applicable.

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.

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Propylene glycol diamine, 2-amino-, diether with Propylene	No information available	No information available	No information available

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

Soluble in water.

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 transported/delivered using a registered waste carrier for local recycling 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 01 04

14. Transport information

14.1. UN number

UN/ID No. (ADR/RID/ADN/ADG)	UN2735
UN No. (IMDG)	UN2735
UN No. (ICAO)	UN2735

14.2. UN proper shipping name

AMINES, LIQUID, CORROSIVE, N.O.S. (contains Polyether amine)

14.3. Hazard class(es)

ADR/RID/ADN/ADG Hazard class	8
IMDG Hazard class	8
ICAO Hazard class/division	8

14.4 Packing group

ADR/RID/ADN/ADG Packing Group	III
IMDG Packing group	III
ICAO Packing group	III



14.5 Environmental hazard

No

14.6 Special precautions

Hazard ID	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 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

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 (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

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

15.2 Chemical Safety Report

No information available

16. Other information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam
Supersedes date	20/Jan/2017

Revision date 20/Apr/2017

Version 2

This SDS has been revised in the following section(s) 3. Composition/information on Ingredients 8. EXPOSURE CONTROLS / PERSONAL PROTECTION Section 16: Other information. No changes with regard to classification have been made.

Text of R phrases mentioned in Section 3

R34 - Causes burns

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

H314 - Causes severe skin burns and eye damage

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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.