

SAFETY DATA SHEET

EZ-MUD®

Revision Date: 27-Jun-2016

Revision Number: 36

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 EZ-MUD®

Other means of Identification

Synonyms None
Hazardous Material Number: HM003643

Recommended use of the chemical and restrictions on use

Recommended Use Shale Inhibitor
Uses advised against No information available

Supplier's name, address and phone number

Manufacturer/Supplier Halliburton/Baroid 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

Hydrotreated light petroleum distillate
 Ethoxylated alcohol

CAS Number

64742-47-8
 Proprietary

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 |
|---|-------------|---------------|---|
| Hydrotreated light petroleum distillate | 64742-47-8 | 10 - 30% | STOT SE 3 (H336) Asp. Tox. 1 (H304) |
| Ethoxylated alcohol | Proprietary | 1 - 5% | Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Corr. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 3 (H412) |

4. First aid measures

Description of necessary first aid measures

Inhalation If inhaled, move victim to fresh air and seek medical attention.
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. Remove contaminated shoes and discard.
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

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. Use water spray to cool fire exposed surfaces.

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. Store locked up. 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 |
|---|-------------|-----------------|----------------|
| Hydrotreated light petroleum distillate | 64742-47-8 | Not applicable | Not applicable |
| Ethoxylated alcohol | Proprietary | 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) In high concentrations, supplied air respirator or a self-contained breathing apparatus.

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): Nitrile gloves. (≥ 0.35 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 | Rubber apron. |
| 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 | White to gray |
| Odor: | Mild hydrocarbon | Odor Threshold: | No information available |

| Property | Values |
|---|--------------------------|
| Remarks/ - Method | |
| pH: | 6-8 |
| Freezing Point / Range | No data available |
| Melting Point / Range | No data available |
| Boiling Point / Range | 175 °C / 347 °F |
| Flash Point | > 93 °C / > 200 °F PMCC |
| Evaporation rate | < 1 |
| Vapor Pressure | 0.002 mmHg |
| Vapor Density | No data available |
| Specific Gravity | 1 |
| Water Solubility | Partly soluble |
| Solubility in other solvents | No data available |
| Partition coefficient: n-octanol/water | No data available |
| Autoignition Temperature | > 200 °C / 392 °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

Ammonia. 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.

Numerical measures of toxicity**Toxicology data for the components**

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|-------------|--|---|---|
| Hydrotreated light petroleum distillate | 64742-47-8 | >5000 mg/kg-bw (rat) (similar substance) | >2000 mg/kg-bw (rabbit) (similar substance) | >5.2 mg/L (rat, 4 h, vapor) (similar substance) |
| Ethoxylated alcohol | Proprietary | 1700 mg/kg (Rat) 1650 mg/kg (Dog) 1100 mg/kg (Rat) (similar substance) 2850 mg/kg (Rat) | > 2000 mg/kg (Rabbit) (similar substance) | > saturated concentration (similar substance) |

Immediate, delayed and chronic health effects from exposure**Inhalation**

May cause mild respiratory irritation.

Eye Contact

In vitro tests indicate that the product is not an eye irritant.

Skin Contact

May cause mild skin irritation.

Ingestion

May cause mild gastric distress.

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

Lung disorders.

Data limitations

No data available

| Substances | CAS Number | Skin corrosion/irritation |
|---|------------|--|
| Hydrotreated light petroleum distillate | 64742-47-8 | Non-irritating to the skin (similar substances) |
| Ethoxylated alcohol | | Causes moderate skin irritation. (Rabbit) (similar substances) |

| Substances | CAS Number | Serious eye damage/irritation |
|---|------------|---|
| Hydrotreated light petroleum distillate | 64742-47-8 | Non-irritating to rabbit's eye (similar substances) |
| Ethoxylated alcohol | | Causes severe eye irritation which may damage tissue. (Rabbit) (similar substances) |

| Substances | CAS Number | Skin Sensitization |
|---|------------|---|
| Hydrotreated light petroleum distillate | 64742-47-8 | Did not cause sensitization on laboratory animals (guinea pig) (similar substances) |
| Ethoxylated alcohol | | Did not cause sensitization on laboratory animals (guinea pig) (similar substances) |

| Substances | CAS Number | Respiratory Sensitization |
|---|------------|---------------------------|
| Hydrotreated light petroleum distillate | 64742-47-8 | No information available |
| Ethoxylated alcohol | | No information available |

| Substances | CAS Number | Mutagenic Effects |
|---|------------|---|
| Hydrotreated light petroleum distillate | 64742-47-8 | In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. (similar substances) |
| Ethoxylated alcohol | | In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. (similar substances) |

| Substances | CAS Number | Carcinogenic Effects |
|------------|------------|----------------------|
|------------|------------|----------------------|

| | | |
|---|------------|---|
| Hydrotreated light petroleum distillate | 64742-47-8 | Did not show carcinogenic effects in animal experiments (similar substances) |
| Ethoxylated alcohol | | Did not show carcinogenic or teratogenic effects in animal experiments (similar substances) |

| Substances | CAS Number | Reproductive toxicity |
|---|------------|--|
| Hydrotreated light petroleum distillate | 64742-47-8 | Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances) |
| Ethoxylated alcohol | | 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 |
|---|------------|--|
| Hydrotreated light petroleum distillate | 64742-47-8 | May cause disorder and damage to the Central Nervous System (CNS) (similar substances) |
| Ethoxylated alcohol | | No significant toxicity observed in animal studies at concentration requiring classification. (similar substances) |

| Substances | CAS Number | STOT - repeated exposure |
|---|------------|--|
| Hydrotreated light petroleum distillate | 64742-47-8 | No significant toxicity observed in animal studies at concentration requiring classification. (similar substances) |
| Ethoxylated alcohol | | No significant toxicity observed in animal studies at concentration requiring classification. (similar substances) |

| Substances | CAS Number | Aspiration hazard |
|---|------------|---|
| Hydrotreated light petroleum distillate | 64742-47-8 | Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal. |
| Ethoxylated alcohol | | Not applicable |

12. Ecological Information

Ecotoxicity

Substance Ecotoxicity Data

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|---|-------------|---|--|----------------------------|---|
| Hydrotreated light petroleum distillate | 64742-47-8 | EC50 (72h) > 1,000 mg/L (Skeletonema costatum) ErL50 (72h) > 1000 mg/L (Pseudokirchneriella subcapitata) EbL50 (72h) > 1000 mg/L (Pseudokirchneriella subcapitata) NOELR (72h) 1000 mg/L (Pseudokirchneriella subcapitata) | LC50 (96h) > 10,000 mg/L (Scophthalmus maximus) LL50 (96h) > 1000 mg/L (Oncorhynchus mykiss) | No information available | LC50 (48h) > 10,000 mg/L (Acartia tonsa) EC50 (48h) 1100 mg/L (Daphnia pulex) LC50 (48h) 0.12 mg/L (Daphnia magna) EL50 (48h) > 1000 mg/L (Daphnia magna) |
| Ethoxylated alcohol | Proprietary | EC50 (48h) 2-4 mg/L (Selenastrum capricornutum) (similar substance) ErC50 (72h) 0.282 mg/L (Selenastrum capricornutum) (similar substance) ErC10 0.137 mg/L (Scenedesmus subspicatus) (similar substance) | 2.6 mg/L (Brachydanio rerio) (similar substance) LC50 (96h) 1.1 mg/L (Salmo gairdneri) (similar substance) NOEC 0.88 mg/L (reproduction) (Lepomis macrochirus) (similar substance) | No information available | EC50 (48h) 1.2 mg/L (Daphnia magna) (Similar substance) EC50 (48h) 0.6 mg/L (Daphnia magna) (Similar substance) NOEC (21d) 0.77 mg/L (reproduction) (Daphnia magna) (Similar substance) |

12.2. Persistence and degradability

| Substances | CAS Number | Persistence and Degradability |
|---|-------------|-----------------------------------|
| Hydrotreated light petroleum distillate | 64742-47-8 | (40% @ 28d) |
| Ethoxylated alcohol | Proprietary | Readily biodegradable (85% @ 28d) |

12.3. Bioaccumulative potential

| Substances | CAS Number | Log Pow |
|---|-------------|------------------------------|
| Hydrotreated light petroleum distillate | 64742-47-8 | Log Pow Weighted Average 7.5 |
| Ethoxylated alcohol | Proprietary | 5.17 |

12.4. Mobility in soil

| Substances | CAS Number | Mobility |
|---|-------------|----------------------------------|
| Hydrotreated light petroleum distillate | 64742-47-8 | No information available |
| Ethoxylated alcohol | Proprietary | Kd = 3.07 L/kg Kd = 3.09 L/kg |

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.

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/CAO

| | |
|-----------------------------|----------------|
| 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)

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: 27-Jun-2016

Revision Note

SDS sections updated: 2

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

H302 - Harmful if swallowed

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H318 - Causes serious eye damage

H336 - May cause drowsiness or dizziness

H400 - Very toxic to aquatic life

H412 - Harmful to aquatic life with long lasting effects

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 abbreviations 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/m³ - 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

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End of Safety Data Sheet