

HALLIBURTON

SAFETY DATA SHEET

EZ-MUD®

This safety data sheet was created pursuant to the requirements of: This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard (29 CFR 1910.1200)

Revision date 09-Aug-2024

Revision Number 39

1. Identification

Product identifier

Product Name EZ-MUD®
Product Code(s) HM003643
Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Shale Inhibitor
Restrictions on use No information available

Details of the supplier of the safety data sheet

Manufacturer/Supplier

Baroid Fluid Services
Product Service Line of Halliburton Energy Services, Inc.
P.O. Box 1675
Houston, TX 77251
Telephone: (281) 871-4000

Prepared By Chemical Stewardship
e-mail: fdunexchem@halliburton.com

Emergency telephone number

Emergency Telephone Number 1-866-519-4752 or 1-760-476-3962 (accessible 24 hours a day / 7 days a week)
Global Incident Response Access Code: 334305
Contract Number: 14012

2. Hazard(s) identification

Classification

Serious eye damage/eye irritation	Category 2A
Aspiration hazard	Category 1

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

**Danger****Hazard statements**

Causes serious eye irritation
May be fatal if swallowed and enters airways

Hazard statements

Causes serious eye irritation.
May be fatal if swallowed and enters airways.

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling.
Wear eye protection/ face protection.

Precautionary Statements - Response**Ingestion**

IF SWALLOWED: Immediately call a POISON CENTER or doctor.
Do NOT induce vomiting.

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

Other information

Causes mild skin irritation.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical Family Blend.

Chemical name	CAS No.	Weight-%
Hydrotreated light petroleum distillate	64742-47-8	10 - 30%
Alcohols, C11-14-isoalcohols, C13-rich, ethoxylated	78330-21-9	1 - 5%

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.
*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
Inhalation	Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Get immediate medical attention. Delayed pulmonary edema may occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
Skin contact	Wash skin with soap and water.
Ingestion	ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms	Difficulty in breathing. Coughing and/ or wheezing. Dizziness. May cause redness and tearing of the eyes. Burning sensation. Prolonged contact may cause redness and irritation.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances.
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5. Fire-fighting measures

Suitable Extinguishing Media Large Fire	Water fog, carbon dioxide, foam, dry chemical. CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
Specific hazards arising from the chemical	No information available. Ammonia. Oxides of nitrogen. Carbon monoxide and carbon dioxide.
Explosion data Sensitivity to static discharge	None.
Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Personal precautions	Ensure adequate ventilation. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.
Other information	Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.

7. Handling and storage**Precautions for safe handling**

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.
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Conditions for safe storage, including any incompatibilities

Storage Conditions	Store away from oxidizers. Keep container closed when not in use. Store locked up. Product has a shelf life of 12 months. Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. Store away from other materials.
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8. Exposure controls/personal protection**Control parameters**

Exposure Limits	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
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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.
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Individual protection measures, such as personal protective equipment

Eye/face protection	Chemical goggles; also wear a face shield if splashing hazard exists. (EN-166). Wear safety glasses with side shields (or goggles).
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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. (>= 8 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. Wear suitable gloves.
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Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
>8 hours	If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN 374 and provide employee	>0.1 mm	>8 hours

	skin care programs		
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Skin and body protection	Wear protective clothing impervious to the chemical substance, including boots, gloves, lab coat, apron, rain jacket, pants or coverall, as appropriate, to prevent skin contact. Rubber apron. Wear suitable protective clothing.
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.
General hygiene considerations	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. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.
Other protective equipment	Eyewash fountains and safety showers must be easily accessible.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No information available
Color	White to gray
Odor	Mild hydrocarbon
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	6 - 8	None known
Melting point / freezing point	No data available	
Initial boiling point and boiling range	175 °C / 347 °F	
Flash point	> 93.1 °C / 199.58 °F	(PMCC)
Evaporation rate	< 1	
Flammability	No data available	
Flammability Limit in Air		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	0.002 mmHg	
Relative vapor density	No data available	
Relative density	1	
Water solubility	Partly soluble	
Solubility(ies)	No data available	
Partition coefficient	No data available	
Autoignition temperature	< 200 °C / 392 °F	
Decomposition temperature		
Kinematic viscosity	No data available	
Dynamic viscosity	No data available	

Other information

Pour Point	No data available
Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	No information available
VOC content	No information available
Liquid Density	No information available

Bulk density No information available

10. Stability and reactivity

Reactivity Stable under normal conditions.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Conditions to avoid None known based on information supplied.

Incompatible materials Strong oxidizers.

Hazardous decomposition products Ammonia. Oxides of nitrogen. Carbon monoxide and carbon dioxide.

11. Toxicological information

Information on likely routes of exposure

Principle Routes of Exposure Ingestion, Skin contact, Eye contact, Inhalation

Product Information

Inhalation	Specific test data for the substance or mixture is not available. Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause irritation of respiratory tract.
Eye contact	Specific test data for the substance or mixture is not available. May cause irritation. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
Skin contact	Repeated exposure may cause skin dryness or cracking. Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation. Causes mild skin irritation.
Ingestion	Specific test data for the substance or mixture is not available. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Difficulty in breathing. Coughing and/ or wheezing. Dizziness. May cause redness and tearing of the eyes. Prolonged contact may cause redness and irritation.

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	99,999.00 mg/kg
ATEmix (dermal)	99,999.00 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	99,999.00 mg/l

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
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)

Alcohols, C11-14-isoalcohols, C13-rich, ethoxylated 78330-21-9	1600 mg/kg-bw (rat) (similar substance)	>2000 mg/kg-bw (rabbit) (similar substance)	>0.22 mg/L (rat, 4h, aerosol, saturated) (similar substance)
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes mild skin irritation.

Chemical name	Skin corrosion/irritation
Hydrotreated light petroleum distillate 64742-47-8	Non-irritating to the skin (similar substances)
Alcohols, C11-14-isoalcohols, C13-rich, ethoxylated 78330-21-9	Skin, rabbit: May cause moderate skin irritation. (similar substances)

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes serious eye irritation.

Chemical name	Serious eye damage/eye irritation
Hydrotreated light petroleum distillate 64742-47-8	Non-irritating to rabbit's eye (similar substances)
Alcohols, C11-14-isoalcohols, C13-rich, ethoxylated 78330-21-9	Eye, rabbit: Causes severe eye irritation which may damage tissue. (similar substances)

Respiratory or skin sensitization

Chemical name	Respiratory sensitization
Hydrotreated light petroleum distillate 64742-47-8	Based on available data, the classification criteria are not met.
Alcohols, C11-14-isoalcohols, C13-rich, ethoxylated 78330-21-9	Based on available data, the classification criteria are not met.
Chemical name	Skin sensitization
Hydrotreated light petroleum distillate 64742-47-8	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Alcohols, C11-14-isoalcohols, C13-rich, ethoxylated 78330-21-9	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)

Germ cell mutagenicity

Chemical name	Germ cell mutagenicity
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)
Alcohols, C11-14-isoalcohols, C13-rich, ethoxylated 78330-21-9	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. (similar substances)

Carcinogenicity

Chemical name	Carcinogenicity
Hydrotreated light petroleum distillate 64742-47-8	Did not show carcinogenic effects in animal experiments (similar substances)
Alcohols, C11-14-isoalcohols, C13-rich, ethoxylated 78330-21-9	Did not show carcinogenic effects in animal experiments (similar substances)

Reproductive toxicity

Chemical name	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)
Alcohols, C11-14-isoalcohols, C13-rich, ethoxylated 78330-21-9	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)

STOT - single exposure

Chemical name	STOT - single exposure
Hydrotreated light petroleum distillate 64742-47-8	No significant toxicity observed in animal studies at concentration requiring classification.
Alcohols, C11-14-isoalcohols, C13-rich, ethoxylated 78330-21-9	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

STOT - repeated exposure

Chemical name	STOT - repeated exposure
Hydrotreated light petroleum distillate 64742-47-8	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Alcohols, C11-14-isoalcohols, C13-rich, ethoxylated 78330-21-9	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

Aspiration hazard

May be fatal if swallowed and enters airways.

Chemical name	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.
Alcohols, C11-14-isoalcohols, C13-rich, ethoxylated 78330-21-9	Based on available data, the classification criteria are not met.

Other adverse effects

No information available.

Interactive effects

No information available.

12. Ecological information**Ecotoxicity**

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Hydrotreated light petroleum distillate 64742-47-8	ErL50(72 h)>10000 mg/L (Skeletonema costatum)	LC50(96 h)>10000 mg/L (Scophthalmus maximus) NOELR(28 d)>1000 mg/L (fish)	-	LC50(48 h)>10000 mg/L (Acartia tonsa) NOELR(21 d)=1000 mg/L (Daphnia magna)
Alcohols, C11-14-isoalcohols, C13-rich, ethoxylated 78330-21-9	IC50(72 h)=1-10 mg/L (Desmodemus subspicatus)	LC50(96 h)=1-10 mg/L (Cyprinus carpio)	-	EC50(48 h)=1-10 mg/L (Daphnia magna) NOAEC (21d) 0.77 mg/L (Daphnia magna)

Persistence and degradability

Chemical name	Persistence and degradability
Hydrotreated light petroleum distillate 64742-47-8	Readily biodegradable (68.1% @ 28d)
Alcohols, C11-14-isoalcohols, C13-rich, ethoxylated 78330-21-9	Readily biodegradable (> 60% @ 28d)

Bioaccumulation

Based on available data, the classification criteria are not met.

Mobility

Based on available data, the classification criteria are not met

Chemical name	Mobility
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Hydrotreated light petroleum distillate 64742-47-8	No information available
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Other adverse effects No information available.

13. Disposal considerations

Disposal methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

DOT Not regulated

IATA Not regulated

IMDG Not regulated

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

15. Regulatory information

US Federal Regulations

TSCA All components listed on inventory or are exempt
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

TSCA Section 5(a) Does not contain any substances listed in this regulation

TSCA Section 5(e) Consent Orders Does not contain any substances listed in this regulation

TSCA Section 12(b) Export Regulations Does not contain substances triggering TSCA12B Export Notification

EPA SARA Title III Extremely Hazardous Substances Complies

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

EPA RCRA Hazardous Waste Classification

If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

Chemical Facility Anti-Terrorism Standards (CFATS)

This product does not contain any Chemicals of Interest regulated by the Department of Homeland Security under the Chemical Facility Anti-Terrorism Standards. See 6 CFR Part 27, including Appendix A.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

US State Regulations

California Proposition 65 This product does not contain any Proposition 65 chemicals

International Inventories

DSL All components listed on inventory or are exempt
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

16. Other information

NFPA Ratings: Health 2, Flammability 1, Reactivity 0

Key or legend to abbreviations and acronyms used in the safety data sheet

ADR - The European Agreement concerning the International Carriage of Dangerous Goods by Road

bw – body weight

CAS – Chemical Abstracts Service

CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures

EN 149 - European standard on filtering halfmasks to protect against particles

FFP - Filtering Facepieces

h - hour

IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

LL50 – Lethal Loading 50%

d - day

Derived No Effect Level (DNEL)

EC – European Commission

EC10 – Effective Concentration 10%

EC50 – Effective Concentration 50%

EEC – European Economic Community

IATA/ICAO - International Air Transport Association / International Civil Aviation Organization

IMDG/IMO - International Maritime Dangerous Goods / International Maritime Organization

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

NTP – National Toxicology Program

OEL – Occupational Exposure Limit

PEL – Permissible Exposure Limit

ppm – parts per million

REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

VOC – Volatile Organic Carbon

UN – United Nations

VLA-EC - short-time excursion limits [Spain valores límite ambientales para la exposición de corta duración]

TWA TWA (time-weighted average)
 Ceiling Maximum limit value

STEL
 Sk*

STEL (Short Term Exposure Limit)
 Skin designation

Key literature references and sources for data used to compile the SDS

Acute Exposure Guideline Level(s) (AEGl(s))

European Chemicals Agency (ECHA) (ECHA_API)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
NIOSH (National Institute for Occupational Safety and Health)

Revision date 09-Aug-2024
Revision Note SDS sections updated: 1 2 11

Disclaimer

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet