

SAFETY DATA SHEET

Product Trade Name: FUSE-IT®

Revision Date: 27-Jun-2017

Revision Number: 15

1. Identification

1.1. Product Identifier

Product Trade Name: FUSE-IT®
Synonyms None
Chemical Family: Anionic Polymer
Internal ID Code HM005844

1.2 Recommended use and restrictions on use

Application: Lost Circulation Material
Uses advised against No information available

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier

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

Halliburton Energy Services, Inc.
645 - 7th Ave SW Suite 1800
Calgary, AB
T2P 4G8
Canada

Prepared By Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

1.4. Emergency telephone number

Emergency Telephone Number: 1-866-519-4752 or 1-760-476-3962
Global Incident Response Access Code: 334305
Contract Number: 14012

2. Hazards Identification

2.1 Classification in accordance with paragraph (d) of §1910.1200

As adopted by the competent authority, this product does not require an SDS or hazard warning label.

Not classified

2.2. Label Elements

Hazard Pictograms

Signal Word: Not Classified

Hazard Statements Not Hazardous

Precautionary Statements

Prevention	None
Response	None
Storage	None
Disposal	None

2.3 Hazards not otherwise classified

None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Hydrotreated light petroleum distillate	64742-47-8	30 - 60%	Asp. Tox. 1 (H304)
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5	5 - 10%	Acute Tox. 3 (H301) Eye Corr. 1 (H318) Aquatic Acute 2 (H401) Aquatic Chronic 3 (H412)
Naphtha, hydrotreated heavy	64742-48-9	1 - 5%	Flam. Liq. 4 (H227) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) Muta. 1B (H340) Carc. 1B (H350) STOT SE 3 (H336) Aquatic Acute 2 (H401)

The exact percentage (concentration) of the composition has been withheld as proprietary.

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.
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.
Ingestion	Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

4.2 Most important symptoms/effects, acute and delayed

No significant hazards expected.

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, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2 Specific hazards arising from the substance or mixture

Special exposure hazards in a fire
Spills produce extremely slippery surfaces.

5.3 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. Spills of this product are very slippery. Avoid breathing vapors. Avoid contact with skin, eyes and clothing.
See Section 8 for additional information

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. Material is slippery underfoot. 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. Store in a cool well ventilated area. Keep container closed when not in use. Keep from freezing. Store at temperatures between 40 and 90 F (5 and 35 C). Product has a shelf life of 12 months.

8. Exposure Controls/Personal Protection

8.1 Occupational Exposure Limits

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Hydrotreated light petroleum distillate	64742-47-8	Not applicable	Not applicable
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5	Not applicable	Not applicable
Naphtha, hydrotreated heavy	64742-48-9	Not applicable	Not applicable

8.2 Appropriate engineering controls

Engineering Controls Use in a well ventilated area.

8.3 Individual protection measures, such as personal protective equipment

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 Not normally needed. But if significant exposures are possible then the following

respirator is recommended:
Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product.

Hand Protection Impervious rubber gloves.
Skin Protection Normal work coveralls. Rubber apron.
Eye Protection Wear safety glasses or goggles to protect against exposure.
Other Precautions None known.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid **Color** Milky white
Odor: Aliphatic Hydrocarbon **Odor** No information available
Threshold:

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
pH:	5 - 8 (0.5%)
Freezing Point / Range	< 5 °C / 41 °F
Melting Point / Range	No data available
Boiling Point / Range	> 100 °C / > 212 °F
Flash Point	> 100 °C / > 212 °F PMCC
Flammability (solid, gas)	No data available
Upper flammability limit	No data available
Lower flammability limit	No data available
Evaporation rate	No data available
Vapor Pressure	2.3 kPa @ 20°C
Vapor Density	0.804 g/L @ 20°C
Specific Gravity	1.0 - 1.2
Water Solubility	Miscible with water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	> 150 °C
Viscosity	> 20.5 mm ² /s @ 40 °C
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
None anticipated

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Oxides of nitrogen. Carbon monoxide and carbon dioxide. Hydrogen cyanide.

11. Toxicological Information

11.1 Information on likely routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation. Ingestion.

11.2 Symptoms related to the physical, chemical and toxicological characteristics

Acute Toxicity

Inhalation None known.
Eye Contact Non-irritating to the eye (OECD 437)
Skin Contact Non-irritating to the skin
Ingestion May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

11.3 Toxicity data

LD50 Oral: > 5000 mg/kg (Rat)
LD50 Dermal: > 5000 mg/kg (Rat)

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)
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5	200-300 mg/kg-bw (rat)	>2000 mg/kg-bw (rabbit)	No data available
Naphtha, hydrotreated heavy	64742-48-9	> 5000 mg/kg (Rat) (similar substance)	> 1000 mg/kg (Rabbit) > 5000 mg/kg (Rabbit)	> 2.5 g/m ³ (Rat) 4h > 5.2 mg/L (Rat) (similar substance)

Substances	CAS Number	Skin corrosion/irritation
Hydrotreated light petroleum distillate	64742-47-8	Non-irritating to the skin (similar substances)
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5	Non-irritating to the skin Not a dermal irritant
Naphtha, hydrotreated heavy	64742-48-9	Causes moderate skin irritation. (similar substances)

Substances	CAS Number	Serious eye damage/irritation
Hydrotreated light petroleum distillate	64742-47-8	Non-irritating to rabbit's eye (similar substances)
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5	Causes severe eye irritation which may damage tissue. Causes serious eye damage (similar substances)
Naphtha, hydrotreated heavy	64742-48-9	Non-irritating to rabbit's eye (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)
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5	Did not cause sensitization on laboratory animals (guinea pig)
Naphtha, hydrotreated heavy	64742-48-9	Did not cause sensitization on humans or laboratory animals. (similar substances)

Substances	CAS Number	Respiratory Sensitization
Hydrotreated light petroleum distillate	64742-47-8	No information available
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydr oxy-, branched	69011-36-5	No information available
Naphtha, hydrotreated heavy	64742-48-9	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)
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydr oxy-, branched	69011-36-5	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. (similar substances)
Naphtha, hydrotreated heavy	64742-48-9	Some in vivo tests have shown mutagenic effects. In vitro tests have shown 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)
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydr oxy-, branched	69011-36-5	Did not show carcinogenic effects in animal experiments (similar substances)
Naphtha, hydrotreated heavy	64742-48-9	This substance is a potential carcinogen.

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)
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydr oxy-, branched	69011-36-5	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
Naphtha, hydrotreated heavy	64742-48-9	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.

Substances	CAS Number	STOT - single exposure
Hydrotreated light petroleum distillate	64742-47-8	No significant toxicity observed in animal studies at concentration requiring classification.
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydr oxy-, branched	69011-36-5	No significant toxicity observed in animal studies at concentration requiring classification.
Naphtha, hydrotreated heavy	64742-48-9	May cause disorder and damage to the Central Nervous System (CNS)

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)
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydr oxy-, branched	69011-36-5	No significant toxicity observed in animal studies at concentration requiring classification.
Naphtha, hydrotreated heavy	64742-48-9	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.
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydr oxy-, branched	69011-36-5	Not applicable
Naphtha, hydrotreated heavy	64742-48-9	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

12. Ecological Information

12.1. Toxicity**Ecotoxicity effects**

Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Acute Fish Toxicity

LC50(96h): > 100 mg/L (Oncorhynchus mykiss)

Algae Toxicity

IC50(72h): > 100 mg/L

Acute Crustaceans Toxicity:

EC50(48h): > 100 mg/L (Daphnia)

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	ErL50(72 h)>10000 mg/L (Skeletonema costatum)	LC50(96 h)>10000 mg/L (Scophthalmus maximus) NOELC(28 d)>1000 mg/L (fish)	No information available	LC50(48 h)>10000 mg/L (Acartia tonsa) NOEC(21 d)=1000 mg/L (Daphnia magna)
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5	IC50(72 h)=1-10 mg/L (Desmodesmus subspicatus)	LC50(96 h)=1-10 mg/L (Cyprinus carpio)	No information available	EC50(48 h)=1-10 mg/L (Daphnia magna) EC50(21 d)=0.37 mg/L (Daphnia magna)
Naphtha, hydrotreated heavy	64742-48-9	EL50 (72h) 3.1 mg/L (Selenastrum capricornutum)	LC50 2200 mg/L (Pimephales promelas) LL50 (96h) 8.2 mg/L (Pimphales promelas)	No information available	LC50 2.6 mg/L (Chaetogammarus marinus) EL50 (96h) 4.5 mg/L (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Hydrotreated light petroleum distillate	64742-47-8	Readily biodegradable (68.1% @ 28d)
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5	Readily biodegradable (> 60% @ 28d)
Naphtha, hydrotreated heavy	64742-48-9	Inherently biodegradable (57.5% @ 28d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Hydrotreated light petroleum distillate	64742-47-8	No information available
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5	LogPow=4.9
Naphtha, hydrotreated heavy	64742-48-9	> 6 1.0 - 8.0

12.4. Mobility in soil

Substances	CAS Number	Mobility
Hydrotreated light petroleum distillate	64742-47-8	No information available
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5	No information available
Naphtha, hydrotreated heavy	64742-48-9	No information available

12.5 Other adverse effects

No information available

13. Disposal Considerations**13.1. Waste treatment methods****Disposal methods**

Disposal should be made in accordance with federal, state, and local regulations.

Contaminated Packaging

Follow all applicable national or local regulations.

14. Transport Information

US DOT

UN Number Not restricted
 UN proper shipping name: Not restricted
 Transport Hazard Class(es): Not applicable
 Packing Group: Not applicable
 Environmental Hazards: Not applicable

Canadian TDG

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/ICAO

UN Number Not restricted
 UN proper shipping name: Not restricted
 Transport Hazard Class(es): Not applicable
 Packing Group: Not applicable
 Environmental Hazards: Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable
Special Precautions for User None

15. Regulatory Information

US Regulations

US TSCA Inventory All components listed on inventory or are exempt.

TSCA Significant New Use Rules - S5A2

Substances	CAS Number	TSCA Significant New Use Rules - S5A2
Hydrotreated light petroleum distillate	64742-47-8	Not applicable
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5	Not applicable
Naphtha, hydrotreated heavy	64742-48-9	Not applicable

EPA SARA Title III Extremely Hazardous Substances

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Hydrotreated light petroleum distillate	64742-47-8	Not applicable
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5	Not applicable
Naphtha, hydrotreated heavy	64742-48-9	Not applicable

EPA SARA (311,312) Hazard Class

None

EPA SARA (313) Chemicals

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Hydrotreated light petroleum distillate	64742-47-8	Not applicable	Not applicable

Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5	Not applicable	Not applicable
Naphtha, hydrotreated heavy	64742-48-9	Not applicable	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
Hydrotreated light petroleum distillate	64742-47-8	Not applicable
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5	Not applicable
Naphtha, hydrotreated heavy	64742-48-9	Not applicable

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.

California Proposition 65

Substances	CAS Number	California Proposition 65
Hydrotreated light petroleum distillate	64742-47-8	Not applicable
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5	Not applicable
Naphtha, hydrotreated heavy	64742-48-9	Not applicable

U.S. State Right-to-Know Regulations

Substances	CAS Number	MA Right-to-Know Law	NJ Right-to-Know Law	PA Right-to-Know Law
Hydrotreated light petroleum distillate	64742-47-8	Not applicable	Not applicable	Not applicable
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5	Not applicable	Not applicable	Not applicable
Naphtha, hydrotreated heavy	64742-48-9	Not applicable	Not applicable	Not applicable

NFPA Ratings: Health 0, Flammability 1, Reactivity 0
HMIS Ratings: Health 0, Flammability 1, Reactivity 0, PPE: C

Canadian Regulations

Canadian Domestic Substances List (DSL) All components listed on inventory or are exempt.

16. Other information

Preparation Information

Prepared By Chemical Stewardship
 Telephone: 1-281-871-6107
 e-mail: fdunexchem@halliburton.com

Revision Date: 27-Jun-2017

Reason for Revision SDS sections updated:
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 3
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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 or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight
CAS – Chemical Abstracts Service
d - day
EC50 – Effective Concentration 50%
ErC50 – Effective Concentration growth rate 50%
h - hour
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
mg/m³ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PEL – Permissible Exposure Limit
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
UN – United Nations
w/w - weight/weight

Key literature references and sources for data

www.ChemADVISOR.com/

Disclaimer Statement

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