

MATERIAL SAFETY DATA SHEET

Product Trade Name: LOSURF-300M™

Revision Date: 18-Jul-2013

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: LOSURF-300M™
Synonyms: None
Chemical Family: Blend
Application: Surfactant

Manufacturer/Supplier Halliburton Energy Services
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Emergency Telephone: (281) 575-5000

Prepared By Chemical Compliance
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT (w/w)	ACGIH TLV-TWA	OSHA PEL-TWA
Ethanol	64-17-5	30 - 60%	STEL: 1000 ppm	1000 ppm
Heavy aromatic petroleum naphtha	64742-94-5	10 - 30%	Not applicable	Not applicable
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	5 - 10%	Not applicable	Not applicable
Naphthalene	91-20-3	0 - 1%	TWA: 10 ppm STEL: 15 ppm	10 ppm

3. HAZARDS IDENTIFICATION

Hazard Overview May cause eye, skin, and respiratory irritation. May cause headache, dizziness, and other central nervous system effects. May be harmful if swallowed.
Flammable.

4. FIRST AID MEASURES

Inhalation If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.

Skin Wash with soap and water. Get medical attention if irritation persists. Remove contaminated clothing and launder before reuse.

Eyes Check for and remove contact lenses if present. In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

Ingestion	Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.
Notes to Physician	Not Applicable

5. FIRE FIGHTING MEASURES

Flash Point/Range (F):	57
Flash Point/Range (C):	14
Flash Point Method:	PMCC
Autoignition Temperature (F):	Not Determined
Autoignition Temperature (C):	Not Determined
Flammability Limits in Air - Lower (%):	3.3
Flammability Limits in Air - Upper (%):	19

Fire Extinguishing Media Carbon Dioxide, Dry Chemicals, Foam.

Special Exposure Hazards Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Decomposition in fire may produce toxic gases.

Special Protective Equipment for Fire-Fighters Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

NFPA Ratings: Health 2, Flammability 3, Reactivity 0
HMIS Ratings: Health 2, Flammability 3, Physical Hazard 0 , PPE: H

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures Use appropriate protective equipment. Wear self-contained breathing apparatus in enclosed areas.

Environmental Precautionary Measures Prevent from entering sewers, waterways, or low areas.

Procedure for Cleaning / Absorption Remove ignition sources and work with non-sparking tools. Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

7. HANDLING AND STORAGE

Handling Precautions Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse. Ground and bond containers when transferring from one container to another.

Storage Information Keep from heat, sparks, and open flames. Keep container closed when not in use. Store in a cool well ventilated area. Store locked up. Product has a shelf life of 24 months.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

Respiratory Protection Organic vapor respirator.

Hand Protection	Impervious rubber gloves. Viton gloves
Skin Protection	Rubber apron.
Eye Protection	Chemical goggles; also wear a face shield if splashing hazard exists.
Other Precautions	Eyewash fountains and safety showers must be easily accessible.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Amber
Odor:	Alcohol
pH:	6 - 9.5
Specific Gravity @ 20 C (Water=1):	.918
Density @ 20 C (lbs./gallon):	7.65
Bulk Density @ 20 C (lbs/ft3):	Not Determined
Boiling Point/Range (F):	173.1
Boiling Point/Range (C):	78.4
Freezing Point/Range (F):	-76.9
Freezing Point/Range (C):	-60.51
Vapor Pressure @ 20 C (mmHg):	40 (etoh)
Vapor Density (Air=1):	> 10
Percent Volatiles:	Not Determined
Evaporation Rate (Butyl Acetate=1):	< 3.3
Solubility in Water (g/100ml):	Soluble
Solubility in Solvents (g/100ml):	Not Determined
VOCs (lbs./gallon):	Not Determined
Viscosity, Dynamic @ 20 C (centipoise):	Not Determined
Viscosity, Kinematic @ 20 C (centistokes):	Not Determined
Partition Coefficient/n-Octanol/Water:	Not Determined
Molecular Weight (g/mole):	Not Determined

10. STABILITY AND REACTIVITY

Stability Data:	Stable
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid	Keep away from heat, sparks and flame.
Incompatibility (Materials to Avoid)	Strong oxidizers.
Hazardous Decomposition Products	Oxides of nitrogen. Carbon monoxide and carbon dioxide.
Additional Guidelines	Not Applicable

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
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Symptoms related to exposure

Acute Toxicity

Product Information

Under certain conditions of use, some of the product ingredients may cause the following:

Inhalation

May cause respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

Eye Contact

May cause eye irritation.

Skin Contact

May cause skin irritation.

Ingestion

Irritation of the mouth, throat, and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea. Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

Chronic Effects/Carcinogenicity

The International Agency for Research on Cancer (IARC) has evaluated naphthalene and determined it to be a possible carcinogen to humans (Group 2B, based on sufficient evidence in experimental animals and inadequate evidence in humans).

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethanol	64-17-5	7060 mg/kg (Rat)	No data available	124.7 mg/L (Rat) 4 h
Heavy aromatic petroleum naphtha	64742-94-5	5000 mg/kg (Rat)	2000 mg/kg (Rabbit)	590 mg/m ³ (Rat) 4 h
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	1310 mg/kg (Rat)	LD50: > 2500 mg/kg	No data available
Naphthalene	91-20-3	490 mg/kg (Rat)	2500 mg/kg (Rat) 20 g/kg (Rabbit) 1120 mg/kg (Rabbit)	340 mg/m ³ (Rat) 1 h

12. ECOLOGICAL INFORMATION**Ecotoxicological Information****Ecotoxicity Product**

Acute Fish Toxicity: May be toxic to aquatic life.

Acute Crustaceans Toxicity: Not determined

Acute Algae Toxicity: Not determined

Ecotoxicity Substance

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Ethanol	64-17-5	No information available	LC50: > 100 mg/L (Pimephales promelas)	No information available	LC50: 9268 - 14221 mg/L (Daphnia magna)
Heavy aromatic petroleum naphtha	64742-94-5	EC50: < 1 mg/l (Skeletonema costatum)	LC50: 2.34 mg/L (Oncorhynchus mykiss) LC50: 41 mg/L (Pimephales promelas) LC50: 0.84 mg/L (Oncorhynchus mykiss)	No information available	EC50: 0.95 mg/L (Daphnia magna) EC50: 0.55 mg/L (Daphnia magna)
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	No information available	No information available	No information available	No information available
Naphthalene	91-20-3	EC50: 0.4 mg/L (Skeletonema costatum)	5.74-6.44 mg/L (Pimephales promelas) 1.2 mg/L (Oncorhynchus gorbuscha)	No information available	LC50: 2.16 mg/L (Daphnia magna)

12.2 Persistence and degradability

Not readily biodegradable

12.3 Bioaccumulative potential

Bioaccumulative potential

Substances	Log Pow
Ethanol	-0.32
Heavy aromatic petroleum naphtha	2.9 - 6.1
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	2.1-3.4
Naphthalene	3.28

12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

13. DISPOSAL CONSIDERATIONS

Disposal Method

Disposal should be made in accordance with federal, state, and local regulations. Incineration recommended in approved incinerator according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

Contaminated Packaging

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

14. TRANSPORT INFORMATION

Land Transportation

DOT

UN1993, Flammable Liquid, N.O.S. (Contains Ethanol) , 3 , II , (14 C)
NAERG 128

Canadian TDG

Flammable Liquid, N.O.S. (Contains Ethanol) , 3 , UN1993 , II , (14 C)

ADR

UN1993, Flammable Liquid, N.O.S (Contains Ethanol) , 3 , II

Air Transportation

ICAO/IATA

UN1993, Flammable Liquid, N.O.S , 3 , II (Contains Ethanol)

Sea Transportation

IMDG

UN1993, Flammable Liquid, N.O.S (Contains Ethanol) , 3 , II , (14 C)
EmS F-E, S-E

Other Transportation Information

Labels: Flammable Liquid

15. REGULATORY INFORMATION

US Regulations

US TSCA Inventory	All components listed on inventory or are exempt.
EPA SARA Title III Extremely Hazardous Substances	Not applicable
EPA SARA (311,312) Hazard Class	Acute Health Hazard Chronic Health Hazard Fire Hazard
EPA SARA (313) Chemicals	This product contains toxic chemical(s) listed below which is(are) subject to the reporting requirements of Section 313 of Title III of SARA and 40 CFR Part 372: Naphthalene//91-20-3 1,2,4-Trimethylbenzene//95-63-6
EPA CERCLA/Superfund Reportable Spill Quantity	EPA Reportable Spill Quantity is 658 Gallons based on Naphthalene (CAS: 91-20-3).
EPA RCRA Hazardous Waste Classification	If product becomes a waste, it does meet the criteria of a hazardous waste as defined by the US EPA, because of: Ignitability D001
California Proposition 65	The California Proposition 65 regulations apply to this product.
MA Right-to-Know Law	One or more components listed.
NJ Right-to-Know Law	One or more components listed.
PA Right-to-Know Law	One or more components listed.

Canadian Regulations

Canadian DSL Inventory	All components listed on inventory or are exempt.
WHMIS Hazard Class	D2B Toxic Materials B2 Flammable Liquids D2A Very Toxic Materials

16. OTHER INFORMATION

The following sections have been revised since the last issue of this SDS

Not applicable

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 Compliance at 1-580-251-4335.

Disclaimer Statement

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*****END OF MSDS*****