

## MATERIAL SAFETY DATA SHEET

Product Trade Name: LoSurf-300D

Revision Date: 23-Sep-2013

Revision Number: 4

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier**

**Product Trade Name:** LoSurf-300D  
**Synonyms:** None  
**Chemical Family:** Blend  
**Internal ID Code** HM006697

**Product Use**

**Application:** Non-ionic Surfactant

**Manufacturer's Name and Contact Details**

**Name and Address** Halliburton Energy Services  
645 - 7th Ave SW Suite 2200  
Calgary, AB  
T2P 4G8  
Canada

**Emergency Telephone Number** (281) 575-5000

**Prepared By**

Chemical Compliance  
Telephone: 1-580-251-4335  
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### 2. HAZARD(S) IDENTIFICATION

**WHMIS Classification**

**WHMIS Hazard Class** B2 Flammable Liquids  
D2A Very Toxic Materials  
D2B Toxic Materials

**WHMIS Symbol(s)**



**Summary of hazards of the product**

**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.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT (w/w)	HMIRA Registry Number	Filing Date
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Ethanol	64-17-5	30 - 60%	Not applicable	Not applicable
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	1 - 5%	Not applicable	Not applicable
Naphthalene	91-20-3	1 - 5%	Not applicable	Not applicable
1,2,4 Trimethylbenzene	95-63-6	0.1 - 1%	Not applicable	Not applicable

#### 4. FIRST AID MEASURES

##### Description of 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.

##### **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.

##### **Skin**

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

##### **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.

##### Most important symptoms and effects, both acute and delayed

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

##### Indication of any immediate medical attention and special treatment needed

##### **Notes to Physician**

Treat symptomatically

#### 5. FIRE FIGHTING MEASURES

##### Extinguishing media

##### **Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

##### **Extinguishing media which must not be used for safety reasons**

None known.

##### Special hazards arising from the substance or mixture

##### **Special Exposure Hazards**

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

##### Advice for firefighters

##### **Special Protective Equipment for Fire-Fighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

##### Hazardous combustion products

Oxides of nitrogen. Carbon monoxide and carbon dioxide.

#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions and emergency procedures

##### **Protective Equipment**

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

### Precautions for safe handling

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

### Conditions for safe storage and Incompatible materials for storage

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

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Occupational Exposure Limits

#### Exposure Limits

Substances	CAS Number	ACGIH TLV-TWA	OSHA PEL-TWA
Ethanol	64-17-5	STEL: 1000 ppm	1000 ppm
Heavy aromatic petroleum naphtha	64742-94-5	Not applicable	Not applicable
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	Not applicable	Not applicable
Naphthalene	91-20-3	TWA: 10 ppm STEL: 15 ppm	10 ppm
1,2,4 Trimethylbenzene	95-63-6	25 ppm	Not applicable

### Appropriate engineering controls

#### Engineering Controls

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

### Personal Protective Equipment (PPE)

#### 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, 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.

#### Hand Protection

Butyl rubber gloves. Neoprene 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

### Information on basic physical and chemical properties

**Physical State:** Liquid  
**Odor:** Alcohol

**Color:** Amber  
**Odor Threshold:** No information available

Property  
Remarks/ - Method

Values

**pH:**  
**pH Concentration of Solution:**  
**Freezing Point/Range**

7  
No information available.  
-60.51 °C

<b>Melting Point/Range</b>	No information available
<b>Boiling Point/Range (C):</b>	78.4
<b>Flash Point/Range (C):</b>	13 °C
<b>Flash Point Method:</b>	PMCC
<b>Autoignition Temperature (C):</b>	No information available.
<b>Flammability Limits in Air - Lower (%):</b>	3.3
<b>Flammability Limits in Air - Upper (%):</b>	19
<b>Evaporation Rate (Butyl Acetate=1):</b>	< 3.3
<b>Vapor Pressure @ 20 C (mmHg):</b>	40 (etoh)
<b>Vapor Density (Air=1):</b>	> 10
<b>Specific Gravity @ 20 C (Water=1):</b>	0.911
<b>Solubility in Water (g/100ml):</b>	Soluble
<b>Solubility in other solvents</b>	No information available.
<b>Partition Coefficient/n-Octanol/Water:</b>	No information available.
<b>Decomposition Temperature (C):</b>	No information available.
<b>Viscosity</b>	No information available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available
<b>Other Information</b>	
<b>Molecular Weight (g/mole):</b>	No information available.
<b>VOC Content (%)</b>	No information available

## 10. STABILITY AND REACTIVITY

### Conditions of Reactivity

#### **Conditions to Avoid**

Keep away from heat, sparks and flame.

#### **Hazardous Polymerization:**

Will Not Occur

### Chemical Stability

Stable

### Sensitivity to Static Discharge

Not available

### Sensitivity to Mechanical Impact

Not available

### Incompatible materials

Strong oxidizers.

### Hazardous Decomposition Products

Oxides of nitrogen. Carbon monoxide and carbon dioxide.

## 11. TOXICOLOGICAL INFORMATION

### Routes of entry

Eye or skin contact, inhalation.

### Information on Toxicological Effects

#### Acute effects from exposure

##### **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 from exposure  
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).

**Irritancy of product  
Irritation**

Irritating to eyes and skin

**Sensitization of product  
Sensitization**

Not confirmed to cause skin or respiratory sensitization.

**Mutagenicity  
Mutagenic Effects**

Contains no ingredient listed as a mutagen

**Carcinogenicity  
Carcinogenic Effects**

This product contains a potential carcinogen.  
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).

**Reproductive Toxicity  
Reproductive Toxicity**

Not a confirmed reproductive toxicant.

**Teratogenicity/embryotoxicity  
Teratogenic**

Not a confirmed teratogen or embryotoxin.

**Toxicologically synergistic material Naphthalene:** Naphthalene increased the mutagenicity of benzo(a)pyrene in bacteria, in the presence of metabolic activation

**Acute Toxicity**

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 <sup>3</sup> ( 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 <sup>3</sup> ( Rat ) 1 h
1,2,4 Trimethylbenzene	95-63-6	3400 mg/kg ( Rat ) 8970 mg/kg ( Rat )	3160 mg/kg ( Rabbit )	18 g/m <sup>3</sup> ( Rat ) 4 h

## 12. ECOLOGICAL INFORMATION

**Toxicity  
Ecotoxicity Effects**

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)
1,2,4 Trimethylbenzene	95-63-6	No information available	LC50: 7.19-8.28 mg/L (Pimephales promelas)	No information available	EC50: 6.14 mg/L (Daphnia magna)

**Persistence and Degradability**

No information available

**Bioaccumulation potential**

No information available

Substances	Log Pow
Ethanol	-0.32
Heavy aromatic petroleum naphtha	2.9 - 6.1
Naphthalene	3.28
1,2,4 Trimethylbenzene	3.42

**Mobility in soil**

No information available

**Results of PBT and vPvB assessment**

No information available.

**Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

<b>13. DISPOSAL CONSIDERATIONS</b>
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**Disposal Method**

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

**Contaminated Packaging**

Follow all applicable national or local regulations.

<b>14. TRANSPORT INFORMATION</b>
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**Canadian TDG**

UN Number: UN1993,  
 UN Proper Shipping Name: Flammable Liquid, N.O.S.  
 Transport Hazard Class(es): , 3  
 Packing Group: , II  
 EMS: EmS F-E, S-E

**IATA/CAO**

UN Number: UN1993,

**UN Proper Shipping Name:** Flammable Liquid, N.O.S.  
**Transport Hazard Class(es):** , 3  
**Packing Group:** , II

**IMDG/IMO**

**UN Number:** UN1993,  
**UN Proper Shipping Name:** Flammable Liquid, N.O.S.  
**Transport Hazard Class(es):** , 3  
**Packing Group:** , II  
**EMS:** EmS F-E, S-E

**Special Precautions for User** None

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

## 15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**Canadian Regulations**

**Canadian DSL Inventory** All components listed on inventory or are exempt.

**WHMIS Hazard Class**

B2 Flammable Liquids  
 D2A Very Toxic Materials  
 D2B Toxic Materials

**WHMIS Symbol(s)****US Regulations**

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

## 16. OTHER INFORMATION

**Preparation Information**

**Prepared By** Chemical Compliance  
 Telephone: 1-580-251-4335  
 e-mail: fdunexchem@halliburton.com

**Revision Date:** 23-Sep-2013

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.

**Key or legend to abbreviations and acronyms**

WHMIS: Workplace Hazardous Materials Information System

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

**Disclaimer Statement**

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