

## MATERIAL SAFETY DATA SHEET

**Product Trade Name:**            **LOSURF-259 SURFACTANT**

**Revision Date:**                    20-Dec-2012

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:**            LOSURF-259 SURFACTANT  
**Synonyms:**                            None  
**Chemical Family:**                Blend  
**Application:**                        Surfactant

**Manufacturer/Supplier**            Halliburton Energy Services, Inc.  
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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT	ACGIH TLV-TWA	OSHA PEL-TWA
Ethoxylated alcohols		5 - 10%	Not applicable	Not applicable
Naphthalene	91-20-3	0 - 1%	10 ppm (S)	10 ppm
Heavy aromatic petroleum naphtha	64742-94-5	5 - 10%	Not applicable	Not applicable
Isopropanol	67-63-0	30 - 60%	200 ppm	400 ppm

### 3. HAZARDS IDENTIFICATION

**Hazard Overview**                    May cause eye and skin burns. May cause respiratory irritation. May cause headache, dizziness, and other central nervous system effects. May be harmful if swallowed. May cause allergic skin reaction. Flammable. Potential carcinogen.

### 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.

**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**                Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

Flash Point/Range (F):	63
Flash Point/Range (C):	17
Flash Point Method:	TCC
Autoignition Temperature (F):	Not Determined
Autoignition Temperature (C):	Not Determined
Flammability Limits in Air - Lower (%):	0.8
Flammability Limits in Air - Upper (%):	12

**Fire Extinguishing Media** Water fog, carbon dioxide, foam, dry chemical.

**Special Exposure Hazards** May be ignited by heat, sparks or flames. Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Decomposition in fire may produce toxic gases. Vapors are heavier than air and may accumulate in low areas. Vapors may travel along the ground to be ignited at distant locations.

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

**NFPA Ratings:** Health 3, Flammability 3, Reactivity 0  
**HMS Ratings:** Health 3\*, Flammability 3, Physical Hazard 0

## 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** Isolate spill and stop leak where safe. Remove ignition sources and work with non-sparking tools. 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. Avoid breathing mist.

**Storage Information** Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use. 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** 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** Impervious rubber gloves.

<b>Skin Protection</b>	Full protective chemical resistant clothing.
<b>Eye Protection</b>	Chemical goggles; also wear a face shield if splashing hazard exists.
<b>Other Precautions</b>	Eyewash fountains and safety showers must be easily accessible.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Liquid
<b>Color:</b>	Clear light amber
<b>Odor:</b>	Alcohol
<b>pH:</b>	Not Determined
<b>Specific Gravity @ 20 C (Water=1):</b>	0.92
<b>Density @ 20 C (lbs./gallon):</b>	7.65
<b>Bulk Density @ 20 C (lbs/ft3):</b>	Not Determined
<b>Boiling Point/Range (F):</b>	198
<b>Boiling Point/Range (C):</b>	92
<b>Freezing Point/Range (F):</b>	-50
<b>Freezing Point/Range (C):</b>	-45.5
<b>Vapor Pressure @ 20 C (mmHg):</b>	83
<b>Vapor Density (Air=1):</b>	Not Determined
<b>Percent Volatiles:</b>	Not Determined
<b>Evaporation Rate (Butyl Acetate=1):</b>	Not Determined
<b>Solubility in Water (g/100ml):</b>	Soluble
<b>Solubility in Solvents (g/100ml):</b>	Not Determined
<b>VOCs (lbs./gallon):</b>	Not Determined
<b>Viscosity, Dynamic @ 20 C (centipoise):</b>	Not Determined
<b>Viscosity, Kinematic @ 20 C (centistokes):</b>	Not Determined
<b>Partition Coefficient/n-Octanol/Water:</b>	Not Determined
<b>Molecular Weight (g/mole):</b>	Not Determined

## 10. STABILITY AND REACTIVITY

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

## 11. TOXICOLOGICAL INFORMATION

<b>Principle Route of Exposure</b>	Eye or skin contact, inhalation.
<b>Inhalation</b>	Excessive inhalation causes headache, dizziness, nausea and incoordination.
<b>Skin Contact</b>	Prolonged or repeated contact may cause skin irritation.
<b>Eye Contact</b>	Causes severe eye irritation May cause eye burns.
<b>Ingestion</b>	May cause abdominal pain, vomiting, nausea, and diarrhea. May cause central nervous system effects.

**Aggravated Medical Conditions** None known.

**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).

**Other Information** None known.

**Toxicity Tests**

**Oral Toxicity:** Not determined

**Dermal Toxicity:** Not determined

**Inhalation Toxicity:** Not determined

**Primary Irritation Effect:** Not determined

**Carcinogenicity** Not determined

**Genotoxicity:** Not determined

**Reproductive /  
Developmental Toxicity:** Not determined

**12. ECOLOGICAL INFORMATION**

**Mobility (Water/Soil/Air)** Not determined

**Persistence/Degradability** Not determined

**Bio-accumulation** Not determined

**Ecotoxicological Information**

**Acute Fish Toxicity:** Not determined

**Acute Crustaceans Toxicity:** TLM96: 10-33 ppm (Crangon crangon)

**Acute Algae Toxicity:** Not determined

**Chemical Fate Information** Not determined

**Other Information** Not applicable

**13. DISPOSAL CONSIDERATIONS**

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

**Contaminated Packaging** Follow all applicable national or local regulations.

**14. TRANSPORT INFORMATION**

**Land Transportation**

**DOT**

UN1993, Flammable Liquid, N.O.S. (Contains Isopropanol, Heavy Aromatic Naphtha), 3, II, (17.2 C), Marine Pollutant (Oxyalkylated Alcohol)  
NAERG 128

**Canadian TDG**

Flammable Liquid, N.O.S.(Contains Isopropanol, Heavy Aromatic Naphtha), 3, UN1993, II, (17.2 C), Marine Pollutant (Oxyalkylated Alcohol)

**ADR**

UN1993,Flammable Liquid, N.O.S.(Contains Isopropanol, Heavy Aromatic Naphtha), 3, II, Marine Pollutant (Oxyalkylated Alcohol)

**Air Transportation****ICAO/IATA**

UN1993,Flammable Liquid, N.O.S., 3, II  
(Contains Isopropanol, Heavy Aromatic Naphtha), Marine Pollutant (Oxyalkylated Alcohol)

**Sea Transportation****IMDG**

UN1993,Flammable Liquid, N.O.S.(Contains Isopropanol, Heavy Aromatic Naphtha), 3, II, (17.2 C)  
, Marine Pollutant (Oxyalkylated Alcohol)  
EmS F-E, S-E

**Other Transportation Information**

**Labels:** Flammable Liquid  
Marine Pollutant

<b>15. REGULATORY INFORMATION</b>
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**US Regulations**

<b>US TSCA Inventory</b>	All components listed on inventory or are exempt.
<b>EPA SARA Title III Extremely Hazardous Substances</b>	Not applicable
<b>EPA SARA (311,312) Hazard Class</b>	Acute Health Hazard Fire Hazard Chronic Health Hazard
<b>EPA SARA (313) Chemicals</b>	This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).
<b>EPA CERCLA/Superfund Reportable Spill Quantity</b>	EPA Reportable Spill Quantity is 14,705 Pounds based on Naphthalene (CAS: 91-20-3).
<b>EPA RCRA Hazardous Waste Classification</b>	If product becomes a waste, it does meet the criteria of a hazardous waste as defined by the US EPA, because of:  Ignitability D001
<b>California Proposition 65</b>	The California Proposition 65 regulations apply to this product.
<b>MA Right-to-Know Law</b>	One or more components listed.

<b>NJ Right-to-Know Law</b>	One or more components listed.
<b>PA Right-to-Know Law</b>	One or more components listed.
<b>Canadian Regulations</b>	
<b>Canadian DSL Inventory</b>	Product contains one or more components not listed on the inventory.
<b>WHMIS Hazard Class</b>	B2 Flammable Liquids

## **16. OTHER INFORMATION**

### **The following sections have been revised since the last issue of this MSDS**

Not applicable

**Additional Information** For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Material Safety Data Sheet for this or other Halliburton products, contact Chemical Compliance at 1-580-251-4335.

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