

# MATERIAL SAFETY DATA SHEET

**Product Trade Name:** HYFLO IV SURFACTANT

**Revision Date:** 01-Feb-2012

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** HYFLO IV SURFACTANT  
**Synonyms:** None  
**Chemical Family:** Blend  
**Application:** Surfactant

**Manufacturer/Supplier** Halliburton Energy Services  
P.O. Box 1431  
Duncan, Oklahoma 73536-0431  
Emergency Telephone: (281) 575-5000

**Prepared By** Chemical Compliance  
Telephone: 1-580-251-4335  
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## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT	ACGIH TLV-TWA	OSHA PEL-TWA
Naphthalene	91-20-3	5-10	10 ppm (S)	10 ppm
Isooctanol	26952-21-6	5 - 10%	50 ppm	Not applicable
Heavy aromatic petroleum naphtha	64742-94-5	30 - 60%	Not applicable	Not applicable
Alkyl hexanol		5-10	Not applicable	Not applicable

## 3. HAZARDS IDENTIFICATION

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

## 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** In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.

**Eyes** 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** Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration.

**Notes to Physician** Not Applicable

## 5. FIRE FIGHTING MEASURES

Flash Point/Range (F):	128
Flash Point/Range (C):	53
Flash Point Method:	Not Determined
Autoignition Temperature (F):	Not Determined
Autoignition Temperature (C):	Not Determined
Flammability Limits in Air - Lower (%):	Not Determined
Flammability Limits in Air - Upper (%):	Not Determined

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

**Special Exposure Hazards** Use water spray to cool fire exposed surfaces. 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 2, Reactivity 0

**HMIS Ratings:** Health 2, Flammability 2, Reactivity 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.

**Storage Information** Store away from oxidizers. Store in a cool well ventilated area. 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** Organic vapor respirator.

**Hand Protection** Impervious rubber 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:	Clear to slightly hazy amber
Odor:	Hydrocarbon
pH:	6.8
Specific Gravity @ 20 C (Water=1):	0.91
Density @ 20 C (lbs./gallon):	7.60
Bulk Density @ 20 C (lbs/ft3):	Not Determined
Boiling Point/Range (F):	Not Determined
Boiling Point/Range (C):	Not Determined
Freezing Point/Range (F):	Not Determined
Freezing Point/Range (C):	Not Determined
Vapor Pressure @ 20 C (mmHg):	20.3
Vapor Density (Air=1):	Not Determined
Percent Volatiles:	37.87
Evaporation Rate (Butyl Acetate=1):	Not Determined
Solubility in Water (g/100ml):	Disperses
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	None anticipated
Incompatibility (Materials to Avoid)	Strong oxidizers.
Hazardous Decomposition Products	Oxides of sulfur. Carbon monoxide and carbon dioxide.
Additional Guidelines	Not Applicable

## 11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
Inhalation	May cause respiratory irritation. This material is an anesthetic. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.
Skin Contact	May cause skin irritation.
Eye Contact	May cause moderate eye 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.
Aggravated Medical Conditions	Skin disorders. Eye ailments.

**Chronic Effects/Carcinogenicity** Repeated overexposure may cause liver and kidney effects.

**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** Slowly biodegradable

**Bio-accumulation** Not determined

#### **Ecotoxicological Information**

**Acute Fish Toxicity:** Not determined

**Acute Crustaceans Toxicity:** TLM96: 3300 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 Amyl Alcohol, Petroleum Naphtha), 3, III, (59 C)  
NAERG 128

##### **Canadian TDG**

Flammable Liquid, N.O.S. (Contains Amyl Alcohol, Petroleum Naphtha), 3, UN1993, III, (59 C)

## ADR

UN1993, Flammable Liquid, N.O.S. (Contains Amyl Alcohol, Petroleum Naphtha), 3, III

## Air Transportation

### ICAO/IATA

UN1993, Flammable Liquid, N.O.S., 3, III  
(Contains Amyl Alcohol, Petroleum Naphtha)

## Sea Transportation

### IMDG

UN1993, Flammable Liquid, N.O.S. (Contains Amyl Alcohol, Petroleum Naphtha), 3, III, (59 C)  
EmS F-E, S-E

## Other Transportation Information

Labels: Flammable Liquid

## 15. REGULATORY INFORMATION

### 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 Chronic Health Hazard Fire Hazard
<b>EPA SARA (313) Chemicals</b>	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
<b>EPA CERCLA/Superfund Reportable Spill Quantity</b>	EPA Reportable Spill Quantity is 263 Gallons 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.

### Canadian Regulations

**Canadian DSL Inventory** Product contains one or more components not listed on the inventory.

<b>16. OTHER INFORMATION</b>
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**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.

**Disclaimer Statement**

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