

## MATERIAL SAFETY DATA SHEET

**Product Trade Name:** Mud Flush III Liquid

**Revision Date:** 07-Oct-2013

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** Mud Flush III Liquid  
**Synonyms:** None  
**Chemical Family:** Lignosulfonate  
**Application:** Cement Pre-Flush

**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  
e-mail: fdunexchem@halliburton.com

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT (w/w)	ACGIH TLV-TWA	OSHA PEL-TWA
Sodium methyl oleoyl taurate	137-20-2	10 - 30%	Not applicable	Not applicable
2-Ethyl hexanol	104-76-7	1 - 5%	TWA: 50 ppm	Not applicable
Sodium tetraborate	1330-43-4	0 - 1%	TWA: 2 mg/m <sup>3</sup> STEL: 6 mg/m <sup>3</sup>	Not applicable

### 3. HAZARDS IDENTIFICATION

**Hazard Overview** May cause eye, skin, and respiratory irritation. Potential reproductive hazard.

### 4. FIRST AID MEASURES

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

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

**Eyes** Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

**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):	Not Determined <b>Min:</b> > 210
Flash Point/Range (C):	Not Determined <b>Min:</b> > 98
Flash Point Method:	PMCC
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	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 1, Flammability 0, Reactivity 0
HMIS Ratings:	Health 1, Flammability 0, Physical Hazard 0 , PPE: F

## 6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures	Use appropriate protective equipment.
Environmental Precautionary Measures	Prevent from entering sewers, waterways, or low areas.
Procedure for Cleaning / Absorption	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.
Storage Information	Store away from oxidizers. Keep container closed when not in use. Store locked up. Product has a shelf life of 24 months.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls	Use in a well ventilated area.
Respiratory Protection	<p>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, AS/NZS 1715:2009, 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.</p> <p>Dust/mist respirator. (N95, P2/P3)</p>
Hand Protection	Neoprene gloves. Nitrile gloves. Viton gloves Impervious rubber gloves.
Skin Protection	Normal work coveralls. Rubber apron.
Eye Protection	Wear safety glasses or goggles to protect against exposure.

**Other Precautions**

Eyewash fountains and safety showers must be easily accessible.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical State:	Liquid
Color:	Light brown
Odor:	Mild
pH:	9
Specific Gravity @ 20 C (Water=1):	1.19
Density @ 20 C (lbs./gallon):	9.7
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):	Not Determined
Vapor Density (Air=1):	Not Determined
Percent Volatiles:	Not Determined
Evaporation Rate (Butyl Acetate=1):	Not Determined
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	None anticipated
Incompatibility (Materials to Avoid)	Strong oxidizers. Strong acids. Prolonged contact with aluminum, lead or zinc. Strong alkalis.
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.
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**Symptoms related to exposure****Acute Toxicity**

Product Information	Based on the collective toxicity of product ingredients, the mixture should be considered to cause the following:
Inhalation	May cause mild respiratory irritation.
Eye Contact	May cause mild eye irritation.
Skin Contact	May cause skin irritation.
Ingestion	Irritation of the mouth, throat, and stomach.

**Chronic Effects/Carcinogenicity**

May cause reproductive effects based on animal studies. Prolonged or repeated exposure may cause embryo and fetus toxicity.

**Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium methyl oleoyl taurate	137-20-2	1700 mg/kg ( Rat )	No data available	No data available
2-Ethyl hexanol	104-76-7	5190 µL/kg ( Rat ) 1516-2774 mg/kg ( Rat ) 1480 mg/kg ( Rat ) 600 mg/kg (Guinea pig)	5660 µL/kg ( Rabbit ) 2520 mg/kg ( Rabbit ) 1980 mg/kg (Rabbit)	227 ppm (Rat) 6h
Sodium tetraborate	1330-43-4	2403 mg/kg ( Rat )	2000 mg/kg ( Rabbit )	No data available

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

<b>Acute Fish Toxicity:</b>	Not determined
<b>Acute Crustaceans Toxicity:</b>	Not determined
<b>Acute Algae Toxicity:</b>	Not determined

**Ecotoxicity Substance**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Sodium methyl oleoyl taurate	137-20-2	No information available	No information available	No information available	No information available
2-Ethyl hexanol	104-76-7	EC50: 11.5 mg/L (Desmodesmus subspicatus)	LC50: 32-37 mg/L (Oncorhynchus mykiss) LC50: 10 - 33 mg/L (Lepomis macrochirus)	No information available	TLM96: > 10000 mg/l (Crangon crangon) EC50 39 mg/L (Daphnia magna)
Sodium tetraborate	1330-43-4	No information available	No information available	No information available	LC50: 141 mg/L (Daphnia magna)

**12.2 Persistence and degradability**

No information available

**12.3 Bioaccumulative potential**

No information available

**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. 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**

Not restricted

**Canadian TDG**

Not restricted

**ADR**

Not restricted

### Air Transportation

**ICAO/IATA**

Not restricted

### Sea Transportation

**IMDG**

Not restricted

### Other Transportation Information

Labels: None

## 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>	None
<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>	Not applicable.
<b>EPA RCRA Hazardous Waste Classification</b>	If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.
<b>California Proposition 65</b>	All components listed do not apply to the California Proposition 65 Regulation.
<b>MA Right-to-Know Law</b>	One or more components listed.
<b>NJ Right-to-Know Law</b>	Does not apply.
<b>PA Right-to-Know Law</b>	One or more components listed.

## Canadian Regulations

Canadian DSL Inventory	All components listed on inventory or are exempt.
WHMIS Hazard Class	D2B 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.

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