

## MATERIAL SAFETY DATA SHEET

**Product Trade Name:** MUSOL SOLVENT

**Revision Date:** 09-Jan-2014

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** MUSOL SOLVENT

**Synonyms:** None

**Chemical Family:** Glycol Ether

**Application:** Solvent

**Manufacturer/Supplier** Baroid Fluid Services  
Product Service Line of Halliburton  
P.O. Box 1675  
Houston, TX 77251  
Telephone: (281) 871-4000  
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**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
Ethylene glycol monobutyl ether	111-76-2	60 - 100%	TWA: 20 ppm	50 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. May be absorbed through the skin. 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** 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):	153
Flash Point/Range (C):	67
Flash Point Method:	DIN 51758
Autoignition Temperature (F):	446
Autoignition Temperature (C):	230
Flammability Limits in Air - Lower (%):	1.1
Flammability Limits in Air - Upper (%):	10.6

**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.

**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. 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. Keep from heat, sparks, and open flames. Keep container closed when not in use. Product has a shelf life of 60 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. Nitrile gloves. Neoprene gloves. Butyl rubber gloves. Vinyl 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**

<b>Physical State:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Mild
<b>pH:</b>	Not Determined
<b>Specific Gravity @ 20 C (Water=1):</b>	0.9
<b>Density @ 20 C (lbs./gallon):</b>	7.51
<b>Bulk Density @ 20 C (lbs/ft<sup>3</sup>):</b>	Not Determined
<b>Boiling Point/Range (F):</b>	340
<b>Boiling Point/Range (C):</b>	171
<b>Freezing Point/Range (F):</b>	-94
<b>Freezing Point/Range (C):</b>	-70
<b>Vapor Pressure @ 20 C (mmHg):</b>	0.76
<b>Vapor Density (Air=1):</b>	4.1
<b>Percent Volatiles:</b>	100
<b>Evaporation Rate (Butyl Acetate=1):</b>	0.06
<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>	0.8
<b>Molecular Weight (g/mole):</b>	118.2

**10. STABILITY AND REACTIVITY**

<b>Stability Data:</b>	Stable
<b>Hazardous Polymerization:</b>	Will Not Occur
<b>Conditions to Avoid</b>	None anticipated
<b>Incompatibility (Materials to Avoid)</b>	Strong oxidizers. Peroxides. Amphoteric metals such as aluminum, magnesium, lead, tin, or zinc.
<b>Hazardous Decomposition Products</b>	Carbon monoxide and carbon dioxide.
<b>Additional Guidelines</b>	Not Applicable

**11. TOXICOLOGICAL INFORMATION**

**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure****Acute Toxicity****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 be absorbed through the skin and contribute to the symptoms listed under ingestion. May cause skin irritation.

**Ingestion**

May cause abdominal pain, vomiting, nausea, and diarrhea. May produce nervous system effects such as feeling of weakness, unsteady walk, and dilation of blood vessels.

**Chronic Effects/Carcinogenicity** Prolonged or repeated exposure may cause fetal damage and testicular effects.

**LD50 Oral:** 470 mg/kg; (rat)  
**LD50 Dermal:** 2270 mg/kg; (rat)  
**LC50 Inhalation:** 450 ppm; (rat); (4-hr)

**Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethylene glycol monobutyl ether	111-76-2	470 mg/kg (Rat) 1414 mg/kg (Guinea pig) 1746 mg/kg (Rat) 320 mg/kg (Rabbit) 530 mg/kg (Rat) 560 mg/kg (Rat) 3000 mg/kg (Rat) 2400 (Rat)	220 mg/kg (Rabbit) 2270 mg/kg (Rat) 200 mg/kg (Guinea pig) >2000 mg/kg (Rabbit) 841 mg/kg (Rabbit) 435 mg/kg (Rabbit) >2000 mg/kg (Guinea pig) >2000 mg/kg (Rat) 100 mg/kg (Rabbit) 207 mg/kg (Guinea pig) 400-500 mg/kg (Rabbit)	450 ppm (Rat) 4h 2.174 mg/L (Rat) 4h 2.21 mg/L (Rat) 4h 450-486 ppm (Rat) 4h 925 ppm (Rat) 4h >633 ppm (Guinea pig) 1h

**12. ECOLOGICAL INFORMATION**

**Ecotoxicological Information**

**Ecotoxicity Product**

**Acute Fish Toxicity:** LC50: > 1000 mg/l (Scophthalmus maximus juvenile)  
**Acute Crustaceans Toxicity:** EC50: 1875 mg/l (Daphnia magna)  
**Acute Algae Toxicity:** EC50: > 500 mg/l (Scenedesmus subspicatus)

**Ecotoxicity Substance**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Ethylene glycol monobutyl ether	111-76-2	EC50: 839.56 mg/l (Skeletonema costatum) EC50(72h): 911 mg/L (biomass) EC50: > 500 mg/l (Scenedesmus subspicatus) NOEC(72h): 88 mg/L (biomass)(Pseudokirchnerella subcapitata)	LC50: > 1000 mg/l (Scophthalmus maximus juvenile) LC50(96h): 1474 mg/L (Oncorhynchus mykiss) NOEC(21d): > 100mg/L (Danio rerio)	TT/EC3(48h): 463 mg/L (Uronema parduzci) TT/EC3(72h): 73 mg/L (Entosiphon sulcatum) TT/EC3(16h): 700 mg/L (Pseudomonas putida)	EC50: >1000 mg/L (Daphnia magna) EC50 (48h): 1800 mg/L (Daphnia magna) EC50: 1875 mg/l (Daphnia magna) NOEC(21d)(reproduction) : 100 mg/L (Daphnia magna)

**12.2 Persistence and degradability**

Readily biodegradable

Substances	Persistence and Degradability
Ethylene glycol monobutyl ether	Readily biodegradable (75-88% @ 28d)

**12.3 Bioaccumulative potential**

Does not bioaccumulate

Substances	Log Pow
Ethylene glycol monobutyl ether	0.81

**12.4 Mobility in soil**

No information available

**12.5 Results of PBT and vPvB assessment**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

**12.6 Other adverse effects**

**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**

Not restricted

**DOT (Bulk)**

NA1993, Combustible Liquid, N.O.S., Combustible Liquid, III  
(Contains Ethylene Glycol Monobutyl Ether)

**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

**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: Glycol Ethers//111-76-2

**EPA CERCLA/Superfund Reportable Spill Quantity** 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>	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>	All components listed on inventory or are exempt.
<b>WHMIS Hazard Class</b>	B3 Combustible Liquids D1A Very Toxic Materials 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\*\*\***