

MATERIAL SAFETY DATA SHEET

Product Trade Name: GasPerm 1100

Revision Date: 28-May-2013

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: GasPerm 1100
Synonyms: None
Chemical Family: Blend
Application: Non-ionic Surfactant

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

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
Terpene	Proprietary	1 - 5%	Not applicable	Not applicable
Citrus, extract	94266-47-4	1 - 5%	Not applicable	Not applicable
Terpenes and Terpenoids, sweet orange-oil	68647-72-3	1 - 5%	Not applicable	Not applicable
Isopropanol	67-63-0	5 - 10%	TWA: 200 ppm STEL: 400 ppm	400 ppm
Polyoxyalkylenes	Proprietary	5 - 10%	Not applicable	Not applicable
Methanol	67-56-1	5 - 10%	TWA: 200 ppm STEL: 250 ppm	200 ppm
Ethanol	64-17-5	10 - 30%	STEL: 1000 ppm	1000 ppm

3. HAZARDS IDENTIFICATION

Hazard Overview: May cause eye, skin, and respiratory irritation. May cause headache, dizziness, and other central nervous system effects. May cause allergic skin reaction. May be harmful if swallowed. May be harmful if inhaled. May be absorbed through the skin. May cause blindness. Flammable.

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. Remove contaminated clothing and launder before reuse.

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. 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):	70
Flash Point/Range (C):	21
Flash Point Method:	PMCC
Autoignition Temperature (F):	Not Determined
Autoignition Temperature (C):	Not Determined
Flammability Limits in Air - Lower (%):	0.7
Flammability Limits in Air - Upper (%):	6.1

Fire Extinguishing Media Carbon Dioxide, Dry Chemicals, Foam.

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 3, Reactivity 0
HMS Ratings: Health 2, Flammability 3, Physical Hazard 0 , PPE: H

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. Scoop up and remove. Contain spill with sand or other inert materials.

7. HANDLING AND STORAGE

Handling Precautions 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. Do NOT consume food, drink, or tobacco in contaminated areas.

Storage Information Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use. Terpene containing products should be stored in phenolic-lined metal, stainless steel, PET, or fluorinated plastic containers. 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	<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, 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>Organic vapor respirator. In high concentrations, supplied air respirator or a self-contained breathing apparatus.</p>
Hand Protection	Nitrile gloves. 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:	Light amber
Odor:	Alcohol
pH:	7
Specific Gravity @ 20 C (Water=1):	0.9368
Density @ 20 C (lbs./gallon):	7.818
Bulk Density @ 20 C (lbs/ft³):	Not Determined
Boiling Point/Range (F):	Not Determined
Boiling Point/Range (C):	Not Determined
Freezing Point/Range (F):	< 0
Freezing Point/Range (C):	< -18
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	Keep away from heat, sparks and flame.

Incompatibility (Materials to Avoid) Iodine pentafluorethylene Strong acids. Strong alkalis. Strong oxidizers.

Hazardous Decomposition Products Carbon monoxide and carbon dioxide.

Additional Guidelines 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. Causes depression and fatigue.

Eye Contact

May cause moderate to severe eye irritation.

Skin Contact

May cause skin defatting with prolonged exposure. May cause mild 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. Ingestion may result in blindness.

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

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Terpene	Proprietary	No data available	No data available	No data available
Citrus, extract	94266-47-4	> 5000 mg/kg	No data available	No data available
Terpenes and Terpenoids, sweet orange-oil	68647-72-3	No data available	No data available	No data available
Isopropanol	67-63-0	4396 mg/kg (Rat) 3600 mg/kg (mouse)	12800 mg/kg (Rat) 12870 mg/kg (Rabbit)	72.6 mg/L (Rat) 4 h
Polyoxyalkylenes	Proprietary	No data available	No data available	No data available
Methanol	67-56-1	> 1187 - 2769 mg/kg (Rat) 3000 mg/kg (Monkey) 300 mg/kg (Human)	15800 mg/kg (Rabbit) 393 mg/kg (Primate)	87.5 mg/L (Rat) 4h 128.2 mg/L (Rat) 4h 83.2 mg/L (Rat) 4 h 64000 ppm (Rat) 4 h 10 mg/L (Human)
Ethanol	64-17-5	7060 mg/kg (Rat)	No data available	124.7 mg/L (Rat) 4 h

12. ECOLOGICAL INFORMATION

Ecotoxicological Information

Ecotoxicity Product

Acute Fish Toxicity: May be toxic to aquatic life.

Acute Crustaceans Toxicity: May be toxic to aquatic life.

Acute Algae Toxicity: Not determined

Ecotoxicity Substance

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Terpene	Proprietary	No information available	TLM96: 550 mg/l (Pimephales promelas)	No information available	No information available

Citrus, extract	94266-47-4	EC50: 20.41 mg/l (Skeletonema costatum)	LC50: >1000 mg/l (Scophthalmus maximus)	No information available	LC50: 34.73 mg/l (Acartia tonsa)
Terpenes and Terpenoids, sweet orange-oil	68647-72-3	No information available	No information available	No information available	No information available
Isopropanol	67-63-0	EC50: > 1000 mg/l(Desmodosmus subspicatus)	LC50: 9640 mg/l (Pimephales promelas)	No information available	EC50: 13299 mg/l (Daphnia magna)
Polyoxyalkylenes	Proprietary	No information available	No information available	No information available	No information available
Methanol	67-56-1	EC50(96h): ca. 22000 mg/L (Pseudokirchnerella subcapitata, Growth rate)	LC50: 28200 mg/l (Pimephales promelas) LC50(96h): 12700 – 15400 mg/L (Lepomis macrochirus)	IC50(3h): > 1000 mg/L (Activated sludge)	EC50(96h): 18260 mg/L (Daphnia magna) NOEC(21d): 122 mg/L (Daphnia magna, Reproduction)
Ethanol	64-17-5	No information available	LC50: > 100 mg/L (Pimephales promelas)	No information available	LC50: 9268 - 14221 mg/L (Daphnia magna)

12.2 Persistence and degradability

No information available

Substances	Persistence and Degradability
Methanol	Readily biodegradable (95-97% @ 20d)

12.3 Bioaccumulative potential

Bioaccumulative potential

Substances	Log Pow
Citrus, extract	4.23
Methanol	-0.77 BCF 1.0 – 4.5 (Cyprinus carpio) BCF < 10 (Leuciscus idus melanotus)
Ethanol	-0.32

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.

Contaminated Packaging Follow all applicable national or local regulations.

14. TRANSPORT INFORMATION

Land Transportation

DOT

UN1993, Flammable Liquid, N.O.S. (Contains Ethanol, Citrus Terpenes) , 3 , II , (21.1 C)
NAERG 128

Canadian TDG

Flammable Liquid, N.O.S. (Contains Ethanol, Citrus Terpenes) , 3 , UN1993 , II , (21.1 C)

ADR

UN1993, Flammable Liquid, N.O.S (Contains Ethanol, Citrus Terpenes) , 3 , II

Air Transportation

ICAO/IATA

UN1993, Flammable Liquid, N.O.S , 3 , II (Contains Ethanol, Citrus Terpenes)

Sea Transportation

IMDG

UN1993, Flammable Liquid, N.O.S (Contains Ethanol, Citrus Terpenes) , 3 , II , (21.1 C)
EmS F-E, S-E

Other Transportation Information

Labels: Flammable Liquid

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: Methanol//67-56-1
EPA CERCLA/Superfund Reportable Spill Quantity	The EPA Reportable Spill Quantity is well above quantities required for any expected use of this product.
EPA RCRA Hazardous Waste Classification	If product becomes a waste, it does meet the criteria of a hazardous waste as defined by the US EPA, because of: Ignitability D001
California Proposition 65	The California Proposition 65 regulations apply to this product.
MA Right-to-Know Law	One or more components listed.
NJ Right-to-Know Law	One or more components listed.
PA Right-to-Know Law	One or more components listed.
Canadian Regulations	
Canadian DSL Inventory	All components listed on inventory or are exempt.

WHMIS Hazard Class B2 Flammable Liquids
 D1B Toxic Materials
 D2A 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*****