

## MATERIAL SAFETY DATA SHEET

**Product Trade Name:** GasPerm 1100

**Revision Date:** 22-Sep-2014

**Revision Number:** 12

### SECTION 1. Product and Company Identification

**Product Identifier**

**Product Trade Name:** GasPerm 1100  
**Synonyms:** None  
**Chemical Family:** Blend  
**Internal ID Code:** HM006667

**Product Use**

**Application:** Non-ionic Surfactant

**Manufacturer's Name and Contact Details**

**Name and Address** Halliburton Energy Services  
645 - 7th Ave SW Suite 2200  
Calgary, AB  
T2P 4G8  
Canada

**Emergency Telephone Number** (281) 575-5000

**Prepared By**

Chemical Compliance  
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### SECTION 2. Hazard(s) Identification

**WHMIS Classification**

**WHMIS Hazard Class** B2 Flammable Liquids  
D1B Toxic Materials  
D2A Very Toxic Materials  
D2B Toxic Materials

**WHMIS Symbol(s)**



**Summary of hazards of the product**

**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.

### SECTION 3: Composition/information on Ingredients

| Substances | CAS Number | PERCENT (w/w) | HMIRA Registry Number | Decision Granted Date |
|------------|------------|---------------|-----------------------|-----------------------|
|------------|------------|---------------|-----------------------|-----------------------|

|   |             |          |                |                 |
|---|-------------|----------|----------------|-----------------|
| Ethanol                                   | 64-17-5     | 10 - 30% | Not applicable | Not applicable  |
| Fatty acids, ethoxylated                  | Proprietary | 5 - 10%  | 8942           | August 29, 2014 |
| Methanol                                  | 67-56-1     | 5 - 10%  | Not applicable | Not applicable  |
| Polyoxyalkylenes                          | Proprietary | 5 - 10%  | 8942           | August 29, 2014 |
| Isopropanol                               | 67-63-0     | 5 - 10%  | 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  |
| Terpene                                   | Proprietary | 1 - 5%   | 8942           | August 29, 2014 |
| Ketone                                    | Proprietary | 0.1 - 1% | 8942           | August 29, 2014 |

## SECTION 4. First aid measures

### Description of first aid measures

#### **Inhalation**

If inhaled, remove to fresh air. If not breathing give artificial respiration (AR), preferably mouth-to-mouth. If breathing is difficult, oxygen should be given by trained personnel. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation (CPR) immediately. Get medical attention immediately.

#### **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.

#### **Skin**

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

#### **Ingestion**

Do not induce vomiting. Never give anything by mouth to an unconscious person. If breathing has stopped, trained personnel should begin rescue breathing / artificial respiration (AR) immediately. If the heart has stopped, trained personnel should begin CPR immediately. Obtain medical attention immediately.

### Most important symptoms and effects, both acute and delayed

May cause eye, skin, and respiratory irritation. May cause headache, dizziness, and other central nervous system effects. May cause blindness.

### Indication of any immediate medical attention and special treatment needed

#### **Notes to Physician**

Treat symptomatically

## SECTION 5. Fire Fighting Measures

### Extinguishing media

#### **Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

#### **Extinguishing media which must not be used for safety reasons**

None known.

### Special hazards arising from the substance or mixture

#### **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.

### Advice for firefighters

#### **Special Protective Equipment for Fire-Fighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

### Hazardous combustion products

Carbon monoxide and carbon dioxide. Oxides of nitrogen. Oxides of phosphorus.

## SECTION 6. Accidental release measures

### Personal precautions and emergency procedures

#### **Protective Equipment**

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.

**SECTION 7. Handling and Storage****Precautions for safe handling**

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. If ventilation is inadequate, vapors can spread from open containers of the controlled product and may flash back, causing a fire, if they contact an ignition source.

**Conditions for safe storage and Incompatible materials for storage**

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.

**SECTION 8: Exposure Controls/Personal Protection****Occupational Exposure Limits****Exposure Limits**

| Substances                                | CAS Number  | ACGIH TLV-TWA                         | OSHA PEL-TWA  |
|---|-------------|---------------------------------------|---------------|
| Ethanol                                   | 64-17-5     | STEL: 1000 ppm                        | 1000 ppm      |
| Fatty acids, ethoxylated                  | Proprietary | Not available                         | Not available |
| Methanol                                  | 67-56-1     | TWA: 200 ppm<br>STEL: 250 ppm<br>Skin | TWA: 200 ppm  |
| Polyoxyalkylenes                          | Proprietary | Not available                         | Not available |
| Isopropanol                               | 67-63-0     | TWA: 200 ppm<br>STEL: 400 ppm         | 400 ppm       |
| Citrus, extract                           | 94266-47-4  | Not available                         | Not available |
| Terpenes and Terpenoids, sweet orange-oil | 68647-72-3  | Not available                         | Not available |
| Terpene                                   | Proprietary | Not available                         | Not available |
| Ketone                                    | Proprietary | TWA: 20 ppm<br>STEL: 75 ppm           | 100 ppm       |

**Appropriate engineering controls****Engineering Controls**

Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

**Personal Protective Equipment (PPE)****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, 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.

Organic vapor respirator.

In high concentrations, supplied air respirator or a self-contained breathing apparatus.

**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.

## SECTION 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

**Physical State:** Liquid  
**Color:** Light amber  
**Odor:** Alcohol  
**Odor Threshold:** No information available

| <u>Property</u><br>Remarks/ - Method           | <u>Values</u>             |
|--|---------------------------|
| <b>pH:</b>                                     | 7                         |
| <b>pH Concentration of Solution:</b>           | No information available. |
| <b>Freezing Point/Range</b>                    | < -18 °C                  |
| <b>Melting Point/Range</b>                     | No information available  |
| <b>Boiling Point/Range (C):</b>                | No information available. |
| <b>Flash Point/Range (C):</b>                  | 21 °C                     |
| <b>Flash Point Method:</b>                     | PMCC                      |
| <b>Autoignition Temperature (C):</b>           | No information available. |
| <b>Flammability Limits in Air - Lower (%):</b> | 0.7                       |
| <b>Flammability Limits in Air - Upper (%):</b> | 6.1                       |
| <b>Evaporation Rate (Butyl Acetate=1):</b>     | No information available. |
| <b>Vapor Pressure @ 20 C (mmHg):</b>           | No information available. |
| <b>Vapor Density (Air=1):</b>                  | No information available. |
| <b>Specific Gravity @ 20 C (Water=1):</b>      | 0.9368                    |
| <b>Solubility in Water (g/100ml):</b>          | Soluble                   |
| <b>Solubility in other solvents</b>            | No information available. |
| <b>Partition Coefficient/n-Octanol/Water:</b>  | No information available. |
| <b>Decomposition Temperature (C):</b>          | No information available. |
| <b>Viscosity</b>                               | No information available  |
| <b>Explosive Properties</b>                    | No information available  |
| <b>Oxidizing Properties</b>                    | No information available  |
| <br><b>Other Information</b>                   |                           |
| <b>Molecular Weight (g/mole):</b>              | No information available. |
| <b>VOC Content (%)</b>                         | No information available  |

## SECTION 10. Stability and Reactivity

### Conditions of Reactivity

**Conditions to Avoid** Keep away from heat, sparks and flame.  
**Hazardous Polymerization:** Will Not Occur

### Chemical Stability

Stable

### Sensitivity to Static Discharge

Not available

### Sensitivity to Mechanical Impact

Not available

### Incompatible materials

Iodine pentafluorethylene Strong acids. Strong alkalis. Strong oxidizers.

### Hazardous Decomposition Products

Carbon monoxide and carbon dioxide. Oxides of nitrogen. Oxides of phosphorus.

## SECTION 11. Toxicological Information

**Routes of entry**

Eye or skin contact, inhalation. Ingestion.

**Information on Toxicological Effects****Acute effects from exposure****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 from exposure****Chronic Effects/Carcinogenicity**

Repeated overexposure may cause liver and kidney effects.

**Irritancy of product****Irritation**

Severe eye irritant Irritating to skin

**Sensitization of product****Sensitization**

Not confirmed to cause skin or respiratory sensitization.

**Mutagenicity****Mutagenic Effects**

Not regarded as mutagenic.

**Carcinogenicity****Carcinogenic Effects**

An ingredient in the product has been classified by IARC as a 2B carcinogen.

**Reproductive toxicity****Reproductive Toxicity**

This product does not contain any known or suspected reproductive hazards

**Teratogenicity/embryotoxicity****Teratogenic**

Fetotoxic and teratogenic effects observed in experimental animals at concentrations that did not produce maternal toxicity.

**Toxicologically synergistic material**

**Methanol:** In animals, high concentrations can increase the toxicity of other chemicals, particularly liver toxins like carbon tetrachloride. Ethanol significantly decreases the toxicity, because it competes for the same metabolic enzymes

**Isopropanol:** Enhanced by the toxicity of carbon tetrachloride, 1,1,2-trichloroethane, chloroform, trichloroethylene, and dimethylnitrosamine (possibly carbon tetrachloride).

**Acute Toxicity**

| Substances                                | CAS Number  | LD50 Oral   | LD50 Dermal   | LC50 Inhalation  |
|---|-------------|---|---|--|
| Ethanol                                   | 64-17-5     | 7060 mg/kg ( Rat )  | No data available   | 124.7 mg/L ( Rat ) 4 h   |
| Fatty acids, ethoxylated                  | Proprietary | No data available   | No data available   | No data available  |
| Methanol                                  | 67-56-1     | > 1187 - 2769 mg/kg (Rat)<br>3000 mg/kg (Monkey)<br>300 mg/kg (Human) | 15800 mg/kg (Rabbit)<br>393 mg/kg (Primate)   | 87.5 mg/L (Rat) 6h vapour<br>128.2 mg/L (Rat) 4h vapour<br>83.2 mg/L (Rat) 4 h<br>64000 ppm (Rat) 4 h<br>10 mg/L (Human) |
| Polyoxyalkylenes                          | Proprietary | No data available   | No data available   | No data available  |
| Isopropanol                               | 67-63-0     | 4396 mg/kg (Rat)<br>5840 mg/kg (Rat)<br>3600 mg/kg (Mouse)            | 12800 mg/kg (Rat)<br>12870 mg/kg (Rabbit)<br>16.4 mL/kg (Rabbit)<br>6280 mg/kg (Rabbit) | 72.6 mg/L (Rat) 4h<br>>10000 ppm (Rat) 6h  |
| 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  |
| Terpene                                   | Proprietary | No data available   | No data available   | No data available  |

|        |             |                    |                        |                      |
|--------|-------------|--------------------|------------------------|----------------------|
| Ketone | Proprietary | 2080 mg/kg ( Rat ) | 16000 mg/kg ( Rabbit ) | 8.2 mg/L ( Rat ) 4 h |
|--------|-------------|--------------------|------------------------|----------------------|

## SECTION 12. Ecological Information

### Toxicity

#### Ecotoxicity Effects

| Substances                                | CAS Number  | Toxicity to Algae  | Toxicity to Fish  | Toxicity to Microorganisms               | Toxicity to Invertebrates  |
|---|-------------|--|---|--|--|
| Ethanol                                   | 64-17-5     | No information available   | LC50: > 100 mg/L (Pimephales promelas)  | No information available                 | LC50: 9268 - 14221 mg/L (Daphnia magna)  |
| Fatty acids, ethoxylated                  | 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)<br>LC50(96h): 12700 – 15400 mg/L (Lepomis macrochirus)<br>200 hr NOEC for % Embryo-cardiovascular for stage 2 = 15800 mg/L | IC50(3h): > 1000 mg/L (activated sludge) | EC50(96h): 18260 mg/L (Daphnia magna)<br>NOEC(21d): 122 mg/L (Daphnia magna, Reproduction) |
| Polyoxyalkylenes                          | Proprietary | No information available   | No information available  | No information available                 | No information available   |
| Isopropanol                               | 67-63-0     | EC50(72h): > 1000 mg/l(Desmodesmus subspicatus)<br>EC50(7d): 1800 mg/L (mean extinction value) (Scenedesmus quadricauda) | LC50(96h): 9640 mg/l (Pimephales promelas)<br>LC50(7d): 7060 mg/L (Poecilia reticulata)   | TT(16h): 1050 mg/L (Pseudomonas putida)  | EC50(48h): 13299 mg/l (Daphnia magna)<br>EC50(24h): > 10000 mg/L (Daphnia magna)           |
| 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   |
| Terpene                                   | Proprietary | No information available   | TLM96: 550 mg/l (Pimephales promelas)   | No information available                 | No information available   |
| Ketone                                    | Proprietary | No information available   | No information available  | No information available                 | No information available   |

### Persistence and Degradability

No information available

### Bioaccumulation potential

Bioaccumulative potential

| Substances      | Log Pow   |
|-----------------|---|
| Ethanol         | -0.32   |
| Methanol        | -0.77<br>BCF 1.0 – 4.5 (Cyprinus carpio)<br>BCF < 10 (Leuciscus idus melanotus) |
| Isopropanol     | 0.05 @ 25°C   |
| Citrus, extract | 4.23  |

### Mobility in soil

No information available

### Results of PBT and vPvB assessment

No information available.

| Substances  | PBT and vPvB assessment |
|-------------|-------------------------|
| Methanol    | Not PBT/vPvB            |
| Isopropanol | Not PBT/vPvB            |

**Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

|  |
|--|
| <b>SECTION 13. Disposal Considerations</b> |
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**Disposal Method** Disposal should be made in accordance with federal, state, and local regulations.

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

|  |
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| <b>SECTION 14. Transport Information</b> |
|--|

**Canadian TDG u10**

**UN Number:** UN1993  
**UN Proper Shipping Name:** Flammable Liquid, N.O.S. (Contains Ethanol, Citrus Terpenes)  
**Transport Hazard Class(es):** 3  
**Packing Group:** II  
**EMS:** EmS F-E, S-E

**IATA/ICAO**

**UN Number:** UN1993  
**UN Proper Shipping Name:** Flammable Liquid, N.O.S. (Contains Ethanol, Citrus Terpenes)  
**Transport Hazard Class(es):** 3  
**Packing Group:** II

**IMDG/IMO**

**UN Number:** UN1993  
**UN Proper Shipping Name:** Flammable Liquid, N.O.S. (Contains Ethanol, Citrus Terpenes)  
**Transport Hazard Class(es):** 3  
**Packing Group:** II  
**EMS:** EmS F-E, S-E

**Special Precautions for User:** None

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:**

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:

|   |
|---|
| <b>SECTION 15: Regulatory Information</b> |
|---|

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**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

**WHMIS Symbol(s)****US Regulations**  
**US TSCA Inventory**

All components listed on inventory or are exempt.

**SECTION 16. Other Information****Preparation Information****Prepared By**Chemical Compliance  
Telephone: 1-580-251-4335  
e-mail: fdunexchem@halliburton.com**Revision Date:**

22-Sep-2014

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.

**Key or legend to abbreviations and acronyms**

WHMIS: Workplace Hazardous Materials Information System

**Key literature references and sources for data**[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)**Disclaimer Statement**

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