

## MATERIAL SAFETY DATA SHEET

**Product Trade Name:** GEM™ GP

**Revision Date:** 11-Nov-2012

<b>1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING</b>
--------------------------------------------------------------------------------------

**Statement of Hazardous Nature** Hazardous according to the criteria of NOHSC, Non-Dangerous Goods according to the criteria of ADG.

**Manufacturer/Supplier** Halliburton/Baroid Australia Pty. Ltd.  
15 Marriott Road  
Jandakot  
WA 6164  
Australia

ACN Number: 009 000 775  
Telephone Number: 61 (08) 9455 8300  
Fax Number: 61 (08) 9455 5300

**Product Emergency Telephone**

Australia: 08-64244950  
Papua New Guinea: 05 1 281 575 5000  
New Zealand: 06-7559274

**Fire, Police & Ambulance - Emergency Telephone**

Australia: 000  
Papua New Guinea: 000  
New Zealand: 111

**Identification of Substances or Preparation**

**Product Trade Name:** GEM™ GP  
**Synonyms:** None  
**Chemical Family:** Glycol Ether  
**UN Number:** None  
**Dangerous Goods Class:** None  
**Subsidiary Risk:** None  
**Hazchem Code:** None Allocated  
**Poisons Schedule:** None Allocated  
**Application:** Shale stabilizer

**Prepared By** Chemical Compliance  
Telephone: 1-580-251-4335  
e-mail: fdunexchem@halliburton.com

<b>2. COMPOSITION/INFORMATION ON INGREDIENTS</b>
--------------------------------------------------

Substances	CAS Number	PERCENT	Australia NOHSC	New Zealand WES	ACGIH TLV-TWA
Polyethylene glycol butyl ether	9004-77-7	60 - 100%	Not applicable	Not applicable	Not applicable

## Non-Hazardous Substance to Total of 100%

### 3. HAZARDS IDENTIFICATION

<b>Hazard Overview</b>	May cause eye, skin, and respiratory irritation. May cause headache, dizziness, and other central nervous system effects. May be harmful if swallowed.
<b>Risk Phrases</b>	R41 Risk of serious damage to eyes.
<b>HSNO Classification</b>	Not Determined

### 4. FIRST AID MEASURES

<b>Inhalation</b>	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.
<b>Skin</b>	Wash with soap and water. Get medical attention if irritation persists.
<b>Eyes</b>	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.
<b>Ingestion</b>	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.
<b>Notes to Physician</b>	Not Applicable

### 5. FIRE FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Water fog, carbon dioxide, foam, dry chemical.
<b>Extinguishing media which must not be used for safety reasons</b>	None known.
<b>Special Exposure Hazards</b>	Decomposition in fire may produce toxic gases.
<b>Special Protective Equipment for Fire-Fighters</b>	Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautionary Measures</b>	Use appropriate protective equipment.
<b>Environmental Precautionary Measures</b>	Prevent from entering sewers, waterways, or low areas.
<b>Procedure for Cleaning / Absorption</b>	Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

### 7. HANDLING AND STORAGE

<b>Handling Precautions</b>	Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse.
<b>Storage Information</b>	Store away from oxidizers. Store away from acids. Keep container closed when not in use.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Engineering Controls</b>	Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.
<b>Respiratory Protection</b>	Not normally needed. But if significant exposures are possible then the following respirator is recommended: Organic vapor respirator.
<b>Hand Protection</b>	Impervious rubber gloves. Nitrile gloves.
<b>Skin Protection</b>	Rubber apron.
<b>Eye Protection</b>	Chemical goggles; also wear a face shield if splashing hazard exists.
<b>Other Precautions</b>	Eyewash fountains and safety showers must be easily accessible.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Liquid
<b>Color:</b>	Yellow to brown
<b>Odor:</b>	Mild
<b>pH:</b>	Not Determined
<b>Specific Gravity @ 20 C (Water=1):</b>	1.012
<b>Density @ 20 C (kg/l):</b>	1.012
<b>Bulk Density @ 20 C (kg/m<sup>3</sup>):</b>	Not Determined
<b>Boiling Point/Range (C):</b>	126
<b>Freezing Point/Range (C):</b>	-45 <b>Max.</b> < -12
<b>Pour Point/Range (C):</b>	Not Determined
<b>Flash Point/Range (C):</b>	166
<b>Flash Point Method:</b>	PMCC
<b>Autoignition Temperature (C):</b>	Not Determined
<b>Flammability Limits in Air - Lower (g/m<sup>3</sup>):</b>	Not Determined
<b>Flammability Limits in Air - Lower (%):</b>	Not Determined
<b>Flammability Limits in Air - Upper (g/m<sup>3</sup>):</b>	Not Determined
<b>Flammability Limits in Air - Upper (%):</b>	Not Determined
<b>Vapor Pressure @ 20 C (mmHg):</b>	Not Determined
<b>Vapor Density (Air=1):</b>	Not Determined
<b>Percent Volatiles:</b>	Not Determined
<b>Evaporation Rate (Butyl Acetate=1):</b>	Not Determined
<b>Solubility in Water (g/100ml):</b>	Miscible
<b>Solubility in Solvents (g/100ml):</b>	Not Determined
<b>VOCs (g/l):</b>	Not Determined
<b>Viscosity, Dynamic @ 20 C (centipoise):</b>	Not Determined
<b>Viscosity, Kinematic @ 20 C (centistokes):</b>	7.3
<b>Partition Coefficient/n-Octanol/Water:</b>	0.436
<b>Molecular Weight (g/mole):</b>	Not Determined
<b>Decomposition Temperature (C):</b>	Not Determined

## 10. STABILITY AND REACTIVITY

<b>Stability Data:</b>	Stable
<b>Hazardous Polymerization:</b>	Will Not Occur
<b>Conditions to Avoid</b>	Keep away from heat, sparks and flame.
<b>Incompatibility (Materials to Avoid)</b>	Strong oxidizers. Mineral acids.

**Hazardous Decomposition Products** 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. 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** Causes eye damage.

**Ingestion** Irritation of the mouth, throat, and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea.

**Aggravated Medical Conditions** Lung disorders. Skin disorders.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 1% are chronic health hazards.

**Other Information** None known.

### Toxicity Tests

**Oral Toxicity:** LD50: > 2000 mg/kg (Rat)

**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** BOD(28 Day): 66% of COD

**Bio-accumulation** Not determined

### Ecotoxicological Information

**Acute Fish Toxicity:** EC50: 475 ppm (Abra alba)

**Acute Crustaceans Toxicity:** TLM48: 310 mg/l (Acartia tonsa)

**Acute Algae Toxicity:** EC50: 391 mg/l (Skeletonema costatum)

**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**

**ADR**  
Not restricted

**Air Transportation**

**ICAO/IATA**  
Not restricted

**Sea Transportation**

**IMDG**  
Not restricted

**Other Transportation Information**

**Labels:** None

**15. REGULATORY INFORMATION**

**Chemical Inventories**

**Australian AICS Inventory** All components listed on inventory or are exempt.  
**New Zealand Inventory of Chemicals** All components listed on inventory or are exempt.

**US TSCA Inventory** All components listed on inventory or are exempt.  
**EINECS Inventory** This product, and all its components, complies with EINECS

**Classification** Xi - Irritant.

**Risk Phrases** R41 Risk of serious damage to eyes.

**Safety Phrases** S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S39 Wear eye and face protection.  
S46 If swallowed, seek medical advice immediately and show this container or label.

**16. OTHER INFORMATION**

**The following sections have been revised since the last issue of this SDS**  
Not applicable

## Contact

### Australian Poisons Information Centre

24 Hour Service: - 13 11 26

Police or Fire Brigade: - 000 (exchange): - 1100

### New Zealand National Poisons Centre

0800 764 766

### 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.

### Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

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