1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Statement of Hazardous Nature
Hazardous according to criteria of WorkSafe

Manufacturer/Supplier
Halliburton/Baroid Australia Pty. Ltd.
53-55 Bannister Road
Canning Vale
WA 6155
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 Substance or Preparation

Product Trade Name: HOLEPLUG® 3/8
Synonyms: None
Chemical Family: Mineral
UN Number: None
Dangerous Goods Class: None
Subsidiary Risk: None
Hazchem Code: None
Application: Fluid Loss Additive
Prepared By
Chemical Compliance
Telephone: 1-580-251-4335
e-mail: fdunexchem@halliburton.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS Number</th>
<th>Percent</th>
<th>Australia NOHSC</th>
<th>ACGIH TLV-TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline silica, cristobalite</td>
<td>14464-46-1</td>
<td>0 - 1%</td>
<td>0.1 mg/m³</td>
<td>0.025 mg/m³</td>
</tr>
</tbody>
</table>
2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>Percentage</th>
<th>Acute Expos. Limit</th>
<th>Chronic Expos. Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline silica, tridymite</td>
<td>15468-32-3</td>
<td>0 - 1%</td>
<td>0.1 mg/m³</td>
<td>0.05 mg/m³</td>
</tr>
<tr>
<td>Crystalline silica, quartz</td>
<td>14808-60-7</td>
<td>0 - 5%</td>
<td>0.1 mg/m³</td>
<td>0.025 mg/m³</td>
</tr>
<tr>
<td>Bentonite</td>
<td>1302-78-9</td>
<td>60 - 100%</td>
<td>Not determined</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Total to 100%

3. HAZARDS IDENTIFICATION

Hazard Overview

CAUTION! - ACUTE HEALTH HAZARD
May cause eye and respiratory irritation.

DANGER! - CHRONIC HEALTH HAZARD
Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposures below recommended exposure limits. Wear a NIOSH certified, European Standard EN 149, or equivalent respirator when using this product. Review the Material Safety Data Sheet (MSDS) for this product, which has been provided to your employer.

Hazard Ratings

- Flammability: 0
- Toxicity: 0
- Body Contact: 0
- Reactivity: 0
- Chronic: 4

Scale: Min/Nil=0 Low=1 Moderate=2 High=3 Extreme=4

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.

Eyes
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

Ingestion
Under normal conditions, first aid procedures are not required.

Notes to Physician
Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media
All standard fire fighting media

Unsuitable Extinguishing Media
None known

Special Exposure Hazards
Not applicable.

Special Protective Equipment for Fire-Fighters
Not applicable.
6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures Use appropriate protective equipment. Avoid creating and breathing dust.

Environmental Precautionary Measures

Procedure for Cleaning/Absorption Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal.

7. HANDLING AND STORAGE

Handling Precautions
This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet.

Storage Information
Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Do not reuse empty container. Product has a shelf life of 12 months.

8. EXPOSURE CONTROLS/PERSOAL PROTECTION

Engineering Controls
Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits listed in Section 2.

Respiratory Protection
Wear a NIOSH certified, European Standard EN 149, or equivalent respirator when using this product.

Hand Protection
Normal work gloves.

Skin Protection
Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.

Eye Protection
Wear safety glasses or goggles to protect against exposure.

Other Precautions
None known.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid
Colour: Variable
Odour: Odourless
pH: 7.5
Specific Gravity @ 20 C (Water=1): 2.12
Density @ 20 C (kg/l): Not Determined
Bulk Density @ 20 C (kg/l): Not Determined
Boiling Point/Range (°C): Not Determined
Freezing Point/Range (°C): Not Determined
Pour Point/Range (°C): Not Determined
Flash Point/Range (°C): Not Determined
Flash Point Method: Not Determined
Autoignition Temperature (°C): Not Determined
Flammability Limits in Air - Lower (g/m³): Not Determined
Flammability Limits in Air - Lower (%): Not Determined
Flammability Limits in Air - Upper (g/m³): Not Determined
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability Limits in Air - Upper (%)</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Vapour Pressure @ 20 C (mmHg)</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Vapour Density (Air=1)</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Percent Volatiles</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Evaporation Rate (Butyl Acetate = 1)</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solubility in Water (g/100ml)</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Solubility in Solvents (g/100ml)</td>
<td>Not Determined</td>
</tr>
<tr>
<td>VOCs (g/l)</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Viscosity, Dynamic @ 20 C (centipoise)</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Viscosity, Kinematic @ 20 C (centistrokes)</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Partition Coefficient/n-Octanol/Water</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Molecular Weight (g/mole)</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Decomposition Temperature (C)</td>
<td>Not Determined</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Category</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability Data</td>
<td>Stable</td>
</tr>
<tr>
<td>Hazardous Polymerisation</td>
<td>Will Not Occur</td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>None anticipated</td>
</tr>
<tr>
<td>Incompatibility (Materials to</td>
<td>Hydrofluoric acid</td>
</tr>
<tr>
<td>Avoid)</td>
<td></td>
</tr>
<tr>
<td>Hazardous Decomposition Products</td>
<td>Amorphous silica may transform at elevated</td>
</tr>
<tr>
<td></td>
<td>temperatures to tridymite (870 C) or cristobalite (1470 C).</td>
</tr>
<tr>
<td>Additional Guidelines</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Route of Exposure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye or skin contact, inhalation.</td>
<td>Inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC, Group 1). There is sufficient evidence in experimental animals for the carcinogenicity of tridymite (IARC, Group 2A). Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See Chronic Effects/Carcinogenicity” subsection below).</td>
</tr>
<tr>
<td>Skin Contact</td>
<td>May cause mechanical injury.</td>
</tr>
<tr>
<td>Eye Contact</td>
<td>May cause eye irritation.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>None known</td>
</tr>
<tr>
<td>Aggravated Medical Conditions</td>
<td>Individuals with respiratory disease, including but not limited to asthma and bronchitis, or subject to eye irritation, should not be exposed to quartz dust.</td>
</tr>
</tbody>
</table>
Chronic Effects/Carcinogenicity

Silicosis: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

Cancer Status: The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies respirable crystalline silica as Known to be a human carcinogen. Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2).

"There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

Other Information

For further information consult Adverse Effects of Crystalline Silica Exposure published by the American Thoracic Society Medical Section of the American Lung Association, American Journal of Respiratory and Critical Care Medicine, Volume 155, pages 761-768 (1997).

Toxicity Tests

- Oral Toxicity: Not determined
- Dermal Toxicity: Not determined
- Inhalation Toxicity: Not determined
- Primary Irritation Effect: Not determined
- Carcinogenicity: Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997).
- Genotoxicity: Not determined
- Reproductive/Developmental Toxicity: Not determined

12. ECOLOGICAL INFORMATION

- Mobility (Water/Soil/Air): Not determined
- Persistence/Degradaibility: Not determined
- Bio-accumulation: Not Determined

Ecotoxicological Information

- Acute Fish Toxicity: Not determined
- Acute Crustaceans Toxicity: Not determined
- Acute Algae Toxicity: Not determined
Chemical Fate Information  
Not determined

Other Information  
Not applicable

13. DISPOSAL CONSIDERATIONS

Disposal Method  
Bury in a licensed landfill according to 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 Shipping Information

EPG:  
Not determined

IERTG:  
Not determined

Labels:  
None

15. REGULATORY INFORMATION

Chemical Inventories

Australian AICS Inventory  
Not Determined

US TSCA Inventory  
All components listed.

EINECS Inventory  
All components are listed on the inventory.

Classification  
Crystalline silica is not classified as a carcinogen in EU Council Directives 67/548/EEC and 88/379/EEC.

Risk Phrases  
None

Safety Phrases  
None

16. OTHER INFORMATION

The following sections have been revised since the last issue of this MSDS:  
Not applicable
Contact

Australian Poisons Information Centre
24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

New Zealand Poisons Information System
Deunedin: -(03) 479 1200 (Normal Hours)

Additional Information
For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Material Safety Data Sheet for this or other Halliburton products, contact Product Stewardship 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***