

# MATERIAL SAFETY DATA SHEET

**Product Trade Name:** CARBO-LITE PROPPANT

**Revision Date:** 06-Dec-2012

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

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

**Manufacturer/Supplier** Halliburton 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:** CARBO-LITE PROPPANT  
**Synonyms:** None  
**Chemical Family:** Silicate  
**UN Number:** None  
**Dangerous Goods Class:** None  
**Subsidiary Risk:** None  
**Hazchem Code:** None Allocated  
**Poisons Schedule:** None Allocated  
**Application:** Proppant

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

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT	Australia NOHSC	New Zealand WES	ACGIH TLV-TWA
Aluminum silicate	1302-76-7	30-70	Not applicable	Not applicable	TWA: 1 mg/m <sup>3</sup>
Phenol / formaldehyde resin	9003-35-4	1 - 5%	Not applicable	Not applicable	Not applicable

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Crystalline silica, cristobalite	14464-46-1	<1	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.025 mg/m <sup>3</sup>
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Non-Hazardous Substance to Total of 100%

## 3. HAZARDS IDENTIFICATION

### Hazard Overview

May cause mild eye, skin, and respiratory irritation. May cause allergic skin reaction. May cause allergic skin and respiratory reaction. 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.

### Risk Phrases

None

### HSNO Classification

6.7A Known or presumed human carcinogens 6.9A Toxic to human target organs or systems

## 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

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

**Suitable Extinguishing Media** All standard fire fighting media

**Extinguishing media which must not be used for safety reasons** None known.

**Special Exposure Hazards** 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.

## 6. ACCIDENTAL RELEASE MEASURES

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

**Environmental Precautionary Measures** Prevent from entering sewers, waterways, or low areas.

**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**

Avoid contact with eyes, skin, or clothing. 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**

Store in a cool, dry location. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Engineering Controls**

Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.

**Respiratory Protection**

Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), 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**

Eyewash fountains and safety showers must be easily accessible.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Physical State:**

Solid

**Color:**

Cream to light gray

**Odor:**

Phenolic

**pH:**

Not Determined

**Specific Gravity @ 20 C (Water=1):**

2.60-3.70

**Density @ 20 C (kg/l):**

Not Determined

**Bulk Density @ 20 C (kg/m<sup>3</sup>):**

100

**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/m<sup>3</sup>):**

Not Determined

**Flammability Limits in Air - Lower (%):**

Not Determined

**Flammability Limits in Air - Upper (g/m<sup>3</sup>):**

Not Determined

**Flammability Limits in Air - Upper (%):**

Not Determined

**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):**

Insoluble

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Solubility in Solvents (g/100ml):	Not Determined
VOCs (g/l):	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
Decomposition Temperature (C):	Not Determined

## 10. STABILITY AND REACTIVITY

Stability Data:	Stable
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid	None anticipated
Incompatibility (Materials to Avoid)	Hydrofluoric acid.
Hazardous Decomposition Products	Carbon monoxide and carbon dioxide. Aldehydes. Phenol. Hydrogen cyanide. Ammonia. Benzo(A)pyrene. Other organic materials. Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).
Additional Guidelines	Not Applicable

## 11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
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### Symptoms related to exposure Inhalation

May cause allergic respiratory reaction. 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).

Skin Contact	May cause skin irritation. May cause a rash and itching of the skin.
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Eye Contact	May cause eye irritation.
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Ingestion	None known
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Aggravated Medical Conditions	Individuals with respiratory disease, including but not limited to asthma and bronchitis, or subject to eye irritation, should not be exposed to quartz dust.
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**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

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

## 12. ECOLOGICAL INFORMATION

<b>Mobility (Water/Soil/Air)</b>	Not determined
<b>Persistence/Degradability</b>	Not applicable
<b>Bio-accumulation</b>	Not determined

#### Ecotoxicological Information

<b>Acute Fish Toxicity:</b>	Not determined
<b>Acute Crustaceans Toxicity:</b>	Not determined

<b>Acute Algae Toxicity:</b>	Not determined
<b>Chemical Fate Information</b>	Not determined
<b>Other Information</b>	Not applicable

### 13. DISPOSAL CONSIDERATIONS

<b>Disposal Method</b>	Bury in a licensed landfill according to federal, state, and local regulations.
<b>Contaminated Packaging</b>	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

<b>Australian AICS Inventory</b>	All components listed on inventory or are exempt.
<b>New Zealand Inventory of Chemicals</b>	All components listed on inventory or are exempt.
<b>US TSCA Inventory</b>	All components listed on inventory or are exempt.
<b>EINECS Inventory</b>	This product, and all its components, complies with EINECS

**Classification** Not Classified

**Risk Phrases** None

**Safety Phrases** S22 Do not breathe dust.

### 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**

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