

## MATERIAL SAFETY DATA SHEET

**Product Trade Name:** DCA-19002

**Revision Date:** 20-Mar-2014

### 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  
NewZealand: 06-7559274

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

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

### Identification of Substances or Preparation

**Product Trade Name:** DCA-19002  
**Synonyms:** None  
**Chemical Family:** Blend  
**UN Number:** None  
**Dangerous Goods Class:** None  
**Subsidiary Risk:** None  
**Hazchem Code:** None Allocated  
**Poisons Schedule:** None Allocated  
**Application:** Crosslinker

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

### 2. HAZARDS IDENTIFICATION

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

**Hazard Overview**

May cause eye irritation Repeated overexposure may cause liver and kidney effects. Potential reproductive 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 if this product becomes dry. Avoid breathing or creating dust. 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 dried product. Review the Material Safety Data Sheet (MSDS) for this product, which has been provided to your employer.

**Classification**

T - Toxic.  
Xi - Irritant.

**Risk Phrases**

R22 Harmful if swallowed.  
R36 Irritating to eyes.  
R49 May cause cancer by inhalation.  
R60 May impair fertility.  
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

**Safety Phrases**

S22 Do not breathe dust.

**HSNO Classification**

6.4A Irritating to the eye  
6.7A Known or presumed human carcinogens  
6.8A Known or presumed human reproductive or developmental toxicants  
6.9A Toxic to human target organs or systems

<b>3. COMPOSITION/INFORMATION ON INGREDIENTS</b>
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Substances	CAS Number	PERCENT (w/w)	Australia	NOHSC	New Zealand	ACGIH TLV-TWA
			WES			
Ulexite	1319-33-1	30 - 60%	Not applicable		Not applicable	Not applicable
Ethylene glycol	107-21-1	10 - 30%	TWA: 10 mg/m <sup>3</sup> TWA: 20 ppm 52 mg/m <sup>3</sup> STEL: 40 ppm STEL: 104 mg/m <sup>3</sup>		Not applicable	100 mg/m <sup>3</sup>
Crystalline silica, quartz	14808-60-7	1 - 5%	TWA: 0.1 mg/m <sup>3</sup>		TWA: 0.2 mg/m <sup>3</sup>	TWA: 0.025 mg/m <sup>3</sup>

**Non-Hazardous Substance to Total of 100%**

<b>4. FIRST AID MEASURES</b>
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**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**

Remove contaminated clothing and launder before reuse. In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention.

**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.

**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**

Water fog, carbon dioxide, foam, dry chemical.

### **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.

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

**Procedure for Cleaning / Absorption** Contain spill with sand or other inert materials. Scoop up and remove. Isolate spill and stop leak where safe.

## 7. HANDLING AND STORAGE

**Handling Precautions** Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Avoid breathing mist. This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud if this product becomes dry. Avoid breathing or creating dust. 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 dried product. Material is slippery underfoot.

**Storage Information** Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use. Product has a shelf life of 12 months.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls** Use in a well ventilated area.

**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, 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.

**Hand Protection** 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

<b>Physical State:</b>	Liquid
<b>Color:</b>	Milky white
<b>Odor:</b>	Odorless
<b>pH:</b>	6.5 - 7.5
<b>Specific Gravity @ 20 C (Water=1):</b>	1.45
<b>Density @ 20 C (kg/l):</b>	1.45
<b>Bulk Density @ 20 C (kg/M3):</b>	Not Determined
<b>Boiling Point/Range (C):</b>	Not Determined
<b>Freezing Point/Range (C):</b>	-34
<b>Pour Point/Range (C):</b>	Not Determined
<b>Flash Point/Range (C):</b>	Not Determined <b>Min:</b> > 100
<b>Flash Point Method:</b>	Not Determined
<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>	Soluble
<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>	Not Determined
<b>Partition Coefficient/n-Octanol/Water:</b>	Not Determined
<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>	None anticipated
<b>Incompatibility (Materials to Avoid)</b>	Strong oxidizers.
<b>Hazardous Decomposition Products</b>	Carbon monoxide and carbon dioxide.
<b>Additional Guidelines</b>	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. In high air concentrations: May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness. 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).

#### Eye Contact

May cause mild eye irritation.

#### Skin Contact

May cause mild skin irritation. Prolonged or widespread contact may result in the absorption of potentially harmful amounts of material.

#### Ingestion

May be harmful if swallowed. In large amounts: May cause abdominal pain, vomiting, nausea, and diarrhea. May cause heart, kidney and brain disorders.

### Chronic Effects/Carcinogenicity

Prolonged or repeated exposure may cause embryo and fetus toxicity. Prolonged or repeated exposure may cause reproductive system damage. Repeated overexposure may cause liver and kidney effects. 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.

See "Inhalation" subsection above with respect to silicosis, cancer status and other data with possible relevance to human health. 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.

### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ulexite	1319-33-1	No data available	No data available	No data available
Ethylene glycol	107-21-1	4000 mg/kg (Rat) 7712 mg/kg (Rat) 1670 mg/kg (Cat)	9530 µL/kg (Rabbit) > 3500 mg/kg (Mouse)	> 2.5 mg/L (Rat) 6h
Crystalline silica, quartz	14808-60-7	500 mg/kg ( Rat )	No data available	No data available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicological Information

#### Ecotoxicity Product

Acute Fish Toxicity: Not determined  
Acute Crustaceans Toxicity: Not determined  
Acute Algae Toxicity: Not determined

#### Ecotoxicity Substance

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Ulexite	1319-33-1	No information available	No information available	No information available	No information available

Ethylene glycol	107-21-1	EC50: 6500 - 13000 mg/L (Pseudokirchneriella subcapitata) TGK(8d): > 10000 mg/L (Scenedesmus quadricauda)	LC50: 41000 mg/L (Oncorhynchus mykiss) LC50(96h): 72860 mg/L (Pimephales promelas) NOEC(7d): 32000 mg/L (mortality) (Pimephales promelas)	TTC(16h): > 10000 mg/L (Pseudomonas putida ) EC20(30 m): > 1995 mg/L (activated sludge, domestic) (similar substance – diethylene glycol)	EC50: 46300 mg/L (Daphnia magna) EC50(48h): >100 mg/L (Daphnia magna) NOEC(7d): 8590 mg/L (reproduction) (Ceriodaphnia dubia)
Crystalline silica, quartz	14808-60-7	EC50(72h): 89 mg/L (biomass) (Scenedesmus subspicatus) (similar substance)	LC50(96h): 508 mg/L (Danio rerio) (similar substance)	No information available	LC50(48h): 731 mg/L (Daphnia magna) (similar substance) LC50(48h): 33.5 mg/L (Ceriodaphnia dubia) (similar substance)

## 12.2 Persistence and degradability

Substances	Persistence and Degradability
Ulexite	The methods for determining biodegradability are not applicable to inorganic substances.
Ethylene glycol	Readily biodegradable (100% @ 10d)
Crystalline silica, quartz	The methods for determining biodegradability are not applicable to inorganic substances.

## 12.3 Bioaccumulative potential

Substances	Log Pow
Ethylene glycol	-1.36

## 12.4 Mobility in soil

No information available

## 12.5 Results of PBT and vPvB assessment

Substances	PBT and vPvB assessment
Ethylene glycol	Not PBT/vPvB

## 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

### 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** T - Toxic.  
Xi - Irritant.

**Risk Phrases** R22 Harmful if swallowed.  
R36 Irritating to eyes.  
R49 May cause cancer by inhalation.  
R60 May impair fertility.  
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

**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.

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