

## MATERIAL SAFETY DATA SHEET

**Product Trade Name:** CL-11 CROSSLINKER

**Revision Date:** 23-Apr-2013

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

**Statement of Hazardous Nature** Hazardous according to the criteria of NOHSC, 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:** CL-11 CROSSLINKER  
**Synonyms:** None  
**Chemical Family:** Blend  
**UN Number:** , UN1219  
**Dangerous Goods Class:** 3  
**Subsidiary Risk:** None  
**Hazchem Code:** 3[Y]E  
**Poisons Schedule:** None Allocated  
**Application:** Crosslinker

**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
Titanium complex	Proprietary	60 - 100%	Not applicable	Not applicable	Not applicable

2. COMPOSITION/INFORMATION ON INGREDIENTS					
Isopropanol	67-63-0	10 - 30%	TWA: 400 ppm TWA: 983 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1230 mg/m <sup>3</sup>	STEL: 500 ppm STEL: 1230 mg/m <sup>3</sup> TWA: 400 ppm TWA: 983 mg/m <sup>3</sup>	TWA: 200 ppm STEL: 400 ppm

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

### 3. HAZARDS IDENTIFICATION

**Hazard Overview** May cause eye and skin irritation. May cause headache, dizziness, and other central nervous system effects. May be harmful if swallowed. May be absorbed through the skin. Repeated overexposure may cause liver and kidney effects. Flammable.

**Risk Phrases**  
 R11 Highly flammable.  
 R36 Irritating to eyes.  
 R67 Vapours may cause drowsiness and dizziness.

**HSNO Classification** Not Determined

### 4. FIRST AID MEASURES

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

**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** 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.

**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. 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. Contain spill with sand or other inert materials. Scoop up and remove.

**7. HANDLING AND STORAGE**

**Handling Precautions** Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse. Ground and bond containers when transferring from one container to another.

**Storage Information** Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

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

Organic vapor respirator.

**Hand Protection** 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.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State:</b>	Liquid
<b>Color:</b>	Clear light yellow
<b>Odor:</b>	Alcohol
<b>pH:</b>	8
<b>Specific Gravity @ 20 C (Water=1):</b>	1.06
<b>Density @ 20 C (kg/l):</b>	1.06
<b>Bulk Density @ 20 C (kg/m<sup>3</sup>):</b>	Not Determined
<b>Boiling Point/Range (C):</b>	85
<b>Freezing Point/Range (C):</b>	Not Determined
<b>Pour Point/Range (C):</b>	Not Determined
<b>Flash Point/Range (C):</b>	16
<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>	< 16
<b>Percent Volatiles:</b>	20
<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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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	Keep away from heat, sparks and flame.
Incompatibility (Materials to Avoid)	Strong oxidizers.
Hazardous Decomposition Products	Olefins. Amines. Flammable hydrocarbons. Carbon monoxide and carbon dioxide.
Additional Guidelines	Not Applicable

## 11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
<u>Symptoms related to exposure</u>	
<b>Inhalation</b>	May cause respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.
<b>Skin Contact</b>	May cause skin irritation.
<b>Eye Contact</b>	May cause eye irritation.
<b>Ingestion</b>	Irritation of the mouth, throat, and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea.
<b>Aggravated Medical Conditions</b>	Lung disorders.
<b>Chronic Effects/Carcinogenicity</b>	Repeated overexposure may cause liver and kidney effects.
<b>Other Information</b>	None known.
<b>Toxicity Tests</b>	
<b>Oral Toxicity:</b>	LD50: 13250 mg/kg (Rat)
<b>Dermal Toxicity:</b>	LD50: 12900 mg/kg (Rabbit)
<b>Inhalation Toxicity:</b>	LC50: 1600 ppm/4 hr. (Rat)
<b>Primary Irritation Effect:</b>	Not determined
<b>Carcinogenicity</b>	Not determined
<b>Genotoxicity:</b>	Not determined
<b>Reproductive / Developmental Toxicity:</b>	Not determined

## 12. ECOLOGICAL INFORMATION

**Mobility (Water/Soil/Air)** Not determined

**Persistence/Degradability** Not determined

**Bio-accumulation** Not determined

### Ecotoxicological Information

**Acute Fish Toxicity:** Not determined

**Acute Crustaceans Toxicity:** TLM96: 1000-3300 ppm (Crangon crangon)

**Acute Algae Toxicity:** Not determined

**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. Incineration recommended in approved incinerator according to federal, state, and local regulations.

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

## 14. TRANSPORT INFORMATION

### Land Transportation

#### ADR

UN1219, Isopropanol Solution, 3, II

### Air Transportation

#### ICAO/IATA

UN1219, Isopropanol Solution, 3, II

### Sea Transportation

#### IMDG

UN1219, Isopropanol Solution, 3, II, (16.1 C)  
EmS F-E, S-D

### Other Transportation Information

**Labels:** Flammable Liquid

## 15. REGULATORY INFORMATION

### Chemical Inventories

**Australian AICS Inventory** All components listed on inventory or are exempt.

**New Zealand Inventory of  
Chemicals  
US TSCA Inventory  
EINECS Inventory**

This product does not comply with NZIOC

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

**Classification**

F - Highly Flammable.  
Xi - Irritant.

**Risk Phrases**

R11 Highly flammable.  
R36 Irritating to eyes.  
R67 Vapours may cause drowsiness and dizziness.

**Safety Phrases**

S2 Keep out of reach of children.  
S7 Keep container tightly closed.  
S16 Keep away from sources of ignition - No Smoking.  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S24/25 Avoid contact with skin and eyes.

**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\*\*\***