

**MATERIAL SAFETY DATA SHEET****Product Trade Name:** **CL-37 CROSSLINKER****Revision Date:** 20-Dec-2012**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**Product Trade Name:** CL-37 CROSSLINKER  
**Synonyms:** None  
**Chemical Family:** Blend  
**Application:** Crosslinker

**Manufacturer/Supplier:** Halliburton Energy Services  
P.O. Box 1431  
Duncan, Oklahoma 73536-0431  
Emergency Telephone: (281) 575-5000

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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Substances	CAS Number	PERCENT	ACGIH TLV-TWA	OSHA PEL-TWA
Triethanolamine zirconate	101033-44-7	60 - 100%	5 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>
Propanol	71-23-8	10 - 30%	100 ppm	200 ppm
Glycerine	56-81-5	10 - 30%	10 mg/m <sup>3</sup>	15 mg/m <sup>3</sup>

**3. HAZARDS IDENTIFICATION**

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

**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** Activated charcoal or gastric lavage may be advisable for significant ingestion.

## 5. FIRE FIGHTING MEASURES

Flash Point/Range (F):	84
Flash Point/Range (C):	28
Flash Point Method:	PMCC
Autoignition Temperature (F):	Not Determined
Autoignition Temperature (C):	Not Determined
Flammability Limits in Air - Lower (%):	Not Determined
Flammability Limits in Air - Upper (%):	Not Determined

**Fire Extinguishing Media** Water fog, carbon dioxide, foam, dry chemical.

**Special Exposure Hazards** May be ignited by heat, sparks or flames. Fight fire from a safe distance and from a protected location. 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.

**NFPA Ratings:** Health 2, Flammability 3, Reactivity 0  
**HMS Ratings:** Health 2, Flammability 3, Reactivity 0

## 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** 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. Store away from acids. Keep from heat, sparks, and open flames. 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. Local exhaust ventilation should be used in areas without good cross ventilation.

**Respiratory Protection** 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

Physical State:	Liquid
Color:	Yellow
Odor:	Alcohol
pH:	7-9
Specific Gravity @ 20 C (Water=1):	1.091
Density @ 20 C (lbs./gallon):	9.09
Bulk Density @ 20 C (lbs/ft3):	Not Determined
Boiling Point/Range (F):	210
Boiling Point/Range (C):	98
Freezing Point/Range (F):	Not Determined
Freezing Point/Range (C):	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):	Soluble
Solubility in Solvents (g/100ml):	Not Determined
VOCs (lbs./gallon):	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

## 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. Strong acids.
Hazardous Decomposition Products	Olefins. Oxides of nitrogen. Other organic materials. 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. May be absorbed through the skin and produce effects similar to those caused by inhalation and/or ingestion. May cause an allergic skin reaction.
Eye Contact	May cause moderate eye irritation.
Ingestion	May be harmful if swallowed. May cause abdominal pain, vomiting, nausea, and diarrhea. May cause central nervous system depression including headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue blurred vision, slurred speech, giddiness, tremors and convulsions.

**Aggravated Medical Conditions** Skin disorders. Lung disorders. Liver and kidney disorders.  
**Chronic Effects/Carcinogenicity** Repeated overexposure may cause liver and kidney effects.  
**Other Information** None known.

#### **Toxicity Tests**

**Oral Toxicity:** Not determined  
**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** 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** 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**

##### **DOT**

UN1274, n-Propanol Solution, 3, III, (28.9 C)  
NAERG 129

##### **Canadian TDG**

n-Propanol Solution, 3, UN1274, III, (28.9 C)

**ADR**

UN1274,n-Propanol Solution, 3, III

**Air Transportation****ICAO/IATA**

UN1274,n-Propanol Solution, 3, III

**Sea Transportation****IMDG**UN1274,n-Propanol Solution, 3, III, (28.9 C)  
EmS F-E, S-D**Other Transportation Information**

Labels: Flammable Liquid

**15. REGULATORY INFORMATION****US Regulations**

<b>US TSCA Inventory</b>	All components listed on inventory or are exempt.
<b>EPA SARA Title III Extremely Hazardous Substances</b>	Not applicable
<b>EPA SARA (311,312) Hazard Class</b>	Acute Health Hazard Chronic Health Hazard Fire Hazard
<b>EPA SARA (313) Chemicals</b>	This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).
<b>EPA CERCLA/Superfund Reportable Spill Quantity</b>	Not applicable.
<b>EPA RCRA Hazardous Waste Classification</b>	If product becomes a waste, it does meet the criteria of a hazardous waste as defined by the US EPA, because of:  Ignitability D001
<b>California Proposition 65</b>	All components listed do not apply to the California Proposition 65 Regulation.
<b>MA Right-to-Know Law</b>	One or more components listed.
<b>NJ Right-to-Know Law</b>	One or more components listed.
<b>PA Right-to-Know Law</b>	One or more components listed.
<b>Canadian Regulations</b>	
<b>Canadian DSL Inventory</b>	All components listed on inventory or are exempt.

**WHMIS Hazard Class**

B2 Flammable Liquids  
D2B Toxic Materials

## **16. OTHER INFORMATION**

**The following sections have been revised since the last issue of this MSDS**

Not applicable

**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 Chemical Compliance at 1-580-251-4335.

**Disclaimer Statement**

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