

## MATERIAL SAFETY DATA SHEET

**Product Trade Name:** CL-30 CROSSLINKER

**Revision Date:** 29-Jul-2014

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** CL-30 CROSSLINKER

**Synonyms:** None

**Chemical Family:** Metal oxide

**Application:** Crosslinker

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

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

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT (w/w)	ACGIH TLV-TWA	OSHA PEL-TWA
Magnesium oxide	1309-48-4	60 - 100%	TWA: 10 mg/m <sup>3</sup>	15 mg/m <sup>3</sup>

### 3. HAZARDS IDENTIFICATION

**Hazard Overview:** May cause mild eye, skin, and respiratory irritation.

### 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:** Not Applicable

## 5. FIRE FIGHTING MEASURES

Flash Point/Range (F):	Not Determined
Flash Point/Range (C):	Not Determined
Flash Point Method:	Not Determined
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** All standard firefighting media.

**Special Exposure Hazards** Not applicable.

**Special Protective Equipment for Fire-Fighters** Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

**NFPA Ratings:** Health 1, Flammability 0, Reactivity 0  
**HMS Ratings:** Health 1, Flammability 0, Reactivity 0

## 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** Scoop up and remove.

## 7. HANDLING AND STORAGE

**Handling Precautions** Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust.

**Storage Information** Store in a cool, dry location. Store in a cool well ventilated area. Product has a shelf life of 24 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, AS/NZS 1715:2009, 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.  
Dust/mist respirator. (N95, P2/P3)

**Hand Protection** Normal work gloves.

**Skin Protection** Normal work coveralls.

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

**Other Precautions** None known.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Powder
Color:	White
Odor:	Odorless
pH:	10.5
Specific Gravity @ 20 C (Water=1):	3.81
Density @ 20 C (lbs./gallon):	Not Determined
Bulk Density @ 20 C (lbs/ft <sup>3</sup> ):	30
Boiling Point/Range (F):	Not Determined
Boiling Point/Range (C):	Not Determined
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:	0
Evaporation Rate (Butyl Acetate=1):	Not Determined
Solubility in Water (g/100ml):	Insoluble
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):	40.32

## 10. STABILITY AND REACTIVITY

Stability Data:	Stable
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid	None anticipated
Incompatibility (Materials to Avoid)	None known.
Hazardous Decomposition Products	None known.
Additional Guidelines	Not Applicable

## 11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure Eye or skin contact, inhalation.

### Symptoms related to exposure

#### Acute Toxicity

Inhalation	May cause mild respiratory irritation.
Eye Contact	May cause mechanical irritation to eye.
Skin Contact	Prolonged or repeated contact may cause slight skin irritation.
Ingestion	None known

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 1% are chronic health hazards.

### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Magnesium oxide	1309-48-4	3870 mg/kg	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
Magnesium oxide	1309-48-4	No information available	No information available	No information available	TLM96: 665,500 ppm (Mysidopsis bahia) EC50(48h): 129.9 mg/L (Daphnia magna)

#### 12.2. Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

Substances	Persistence and Degradability
Magnesium oxide	The methods for determining biodegradability are not applicable to inorganic substances.

#### 12.3. Bioaccumulative potential

Does not bioaccumulate

#### 12.4. Mobility in soil

No information available

#### 12.5. Results of PBT and vPvB assessment

No information available.

Substances	PBT and vPvB assessment
Magnesium oxide	Not PBT/vPvB

#### 12.6. Other adverse effects

## 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

### US DOT

UN Number:	Not restricted.
UN Proper Shipping Name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable

### US DOT Bulk

DOT (Bulk) Not Applicable

### Canadian TDG u10

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable

**IMDG/IMO**

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable

**IATA/ICAO**

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable  
**Special Precautions for User:** None

**15. REGULATORY INFORMATION**

**US Regulations**

**US TSCA Inventory** All components listed on inventory or are exempt.

**EPA SARA Title III Extremely Hazardous Substances** Not applicable

**EPA SARA (311,312) Hazard Class** None

**EPA SARA (313) Chemicals** This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).

**EPA CERCLA/Superfund Reportable Spill Quantity** Not applicable.

**EPA RCRA Hazardous Waste Classification** If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

**California Proposition 65** All components listed do not apply to the California Proposition 65 Regulation.

**MA Right-to-Know Law** One or more components listed.

**NJ Right-to-Know Law** One or more components listed.

**PA Right-to-Know Law** One or more components listed.

**Canadian Regulations**

**Canadian DSL Inventory** All components listed on inventory or are exempt.

**WHMIS Hazard Class** Un-Controlled

**16. OTHER INFORMATION**

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

Not applicable

**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\*\*\***