

**MATERIAL SAFETY DATA SHEET****Product Trade Name:** LIME**Revision Date:** 20-Feb-2014**Revision Number:** 24**1. Product and Company Identification****Product Identifier**

**Product Trade Name:** LIME  
**Synonyms:** None  
**Chemical Family:** Inorganic  
**Internal ID Code** HM003683

**Product Use**

**Application:** pH Control

**Manufacturer's Name and Contact Details**

**Name and Address** Halliburton Energy Services  
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Calgary, AB  
T2P 4G8  
Canada

**Emergency Telephone Number** (281) 575-5000

**Prepared By**

Chemical Compliance  
Telephone: 1-580-251-4335  
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**2. Hazard(s) Identification****WHIMIS Classification**

**WHIMIS Hazard Class** D2B Toxic Materials  
E Corrosive Material

**WHIMIS Symbol(s)****Summary of hazards of the product**

**Hazard Overview** May cause eye burns. May cause skin and respiratory irritation. May be harmful if swallowed.

**3. Composition/information on Ingredients**

Substances	CAS Number	PERCENT (w/w)	HMIRA Registry Number	Filing Date
Calcium hydroxide	1305-62-0	60 - 100%	Not applicable	Not applicable

## 4. First aid measures

### Description of first aid measures

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Eyes</b>	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.
<b>Skin</b>	Wash with soap and water. Get medical attention if irritation persists. Remove contaminated clothing and launder before reuse.
<b>Ingestion</b>	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.

### Most important symptoms and effects, both acute and delayed

May cause eye, skin, and respiratory burns.

### Indication of any immediate medical attention and special treatment needed

**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

### Extinguishing media

#### Suitable Extinguishing Media

All standard fire fighting media

#### Extinguishing media which must not be used for safety reasons

None known.

### Special hazards arising from the substance or mixture

#### Special Exposure Hazards

Not applicable.

### Advice for firefighters

#### Special Protective Equipment for Fire-Fighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

### Hazardous combustion products

None known.

## 6. Accidental release measures

### Personal precautions and emergency procedures

#### Protective Equipment

Use appropriate protective equipment. Avoid creating and breathing dust.

### Environmental Precautionary Measures

None known.

### Procedure for Cleaning / Absorption

Scoop up and remove.

## 7. Handling and Storage

### Precautions for safe handling

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

### Conditions for safe storage and Incompatible materials for storage

Store away from acids. Store in a cool, dry location.

## 8. Exposure Controls/Personal Protection

**Occupational Exposure Limits****Exposure Limits**

Substances	CAS Number	ACGIH TLV-TWA	OSHA PEL-TWA
Calcium hydroxide	1305-62-0	TWA: 5 mg/m <sup>3</sup>	15 mg/m <sup>3</sup>

**Appropriate engineering controls**

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

**Personal Protective Equipment (PPE)**

<b>Respiratory Protection</b>	Dust/mist respirator. (N95, P2/P3)
<b>Hand Protection</b>	Impervious rubber gloves. Butyl rubber gloves. Nitrile gloves. Neoprene gloves.
<b>Skin Protection</b>	Rubber apron.
<b>Eye Protection</b>	Chemical goggles; also wear a face shield if splashing hazard exists.
<b>Other Precautions</b>	Eyewash fountains and safety showers must be easily accessible.

**9. Physical and Chemical Properties****Information on basic physical and chemical properties**

<b>Physical State:</b>	Solid	<b>Color:</b>	White
<b>Odor:</b>	Odorless	<b>Odor Threshold:</b>	No information available

**Property****Remarks/ - Method****pH:****pH Concentration of Solution:****Freezing Point/Range****Melting Point/Range****Boiling Point/Range (C):****Flash Point/Range (C):****Flash Point Method:****Autoignition Temperature (C):****Flammability Limits in Air - Lower (%):****Flammability Limits in Air - Upper (%):****Evaporation Rate (Butyl Acetate=1):****Vapor Pressure @ 20 C (mmHg):****Vapor Density (Air=1):****Specific Gravity @ 20 C (Water=1):****Solubility in Water (g/100ml):****Solubility in other solvents****Partition Coefficient/n-Octanol/Water:****Decomposition Temperature (C):****Viscosity****Explosive Properties****Oxidizing Properties****Values**

12.2

No information available.

No information available.

No information available

No information available.

**Other Information****Molecular Weight (g/mole):**

74.1

No information available

**VOC Content (%)****10. Stability and Reactivity****Conditions of Reactivity****Conditions to Avoid**

None anticipated

**Hazardous Polymerization:**

Will Not Occur

**Chemical Stability**

Stable

**Sensitivity to Static Discharge**

Not available

**Sensitivity to Mechanical Impact**

Not available

**Incompatible materials**

Strong acids.

**Hazardous Decomposition Products**

None known.

**11. Toxicological Information****Routes of entry**

Eye or skin contact, inhalation.

**Information on Toxicological Effects****Acute effects from exposure**

Inhalation May cause respiratory irritation.

Eye Contact Causes severe eye irritation May cause eye burns.

Skin Contact Causes severe skin irritation.

Ingestion Irritation of the mouth, throat, and stomach.

**Chronic effects from exposure****Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 1% are chronic health hazards.**Irritancy of product****Irritation** Irritating to skin Corrosive to eyes**Sensitization of product****Sensitization** Not confirmed to cause skin or respiratory sensitization.**Mutagenicity**

Mutagenic Effects Not regarded as mutagenic

**Carcinogenicity**

Carcinogenic Effects No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC, NTP, or OSHA.

**Reproductive Toxicity**

Reproductive Toxicity This product does not contain any known or suspected reproductive hazards

**Teratogenicity/embryotoxicity**

Teratogenic Not a teratogen or embroyotoxin.

**Toxicologically synergistic material**

Not available

**Acute Toxicity**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Calcium hydroxide	1305-62-0	7340 mg/kg (Rat) > 2000 mg/kg (Rat)	>2500 mg/kg (Rabbit)	No data available

**12. Ecological Information****Toxicity**

**Ecotoxicity Effects**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity for Invertebrates
Calcium hydroxide	1305-62-0	EC50(72h): 184.57 mg/L (Pseudokirchnerella subcapitata)	TLM96: 100-500 ppm (Oncorhynchus mykiss) 33.884 mg/L (Clarias gariepinus) LC50(96h): 50.6 mg/L (Oncorhynchus mykiss) LC50(96h): 457 mg/L (Gasterosteus aculeatus)	EC50(3h): 300.4 mg/L (respiration rate) (activated sludge of a predominantly domestic sewage)	TLM96: 478,520 ppm (Mysidopsis bahia) EC50(48h): 49.1 mg/L (Daphnia magna) LC50(96h): 158 mg/L (Crangon septemspinosa) NOEC(14d): 32 mg/L (Crangon septemspinosa)

**Persistence and Degradability**

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

**Bioaccumulation potential**

Does not bioaccumulate

**Mobility in soil**

No information available

**Results of PBT and vPvB assessment**

No information available.

**Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

**13. Disposal Considerations**

**Disposal Method** Bury in a licensed landfill according to federal, state, and local regulations.

**Contaminated Packaging** Empty container completely. Transport with all closures in place. Return for reuse or dispose in a sanitary landfill according to national or local regulations.

**14. Transport Information****Canadian TDG**

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

**IATA/ICAO**

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

**IMDG/IMO**

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

**Special Precautions for User** None

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

**15. Regulatory Information**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**Canadian Regulations****Canadian DSL Inventory**

All components listed on inventory or are exempt.

**WHMIS Hazard Class**D2B Toxic Materials  
E Corrosive Material**WHMIS Symbol(s)****US Regulations****US TSCA Inventory**

All components listed on inventory or are exempt.

**16. Other Information****Preparation Information****Prepared By**Chemical Compliance  
Telephone: 1-580-251-4335  
e-mail: fdunexchem@halliburton.com**Revision Date:**

20-Feb-2014

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.

**Key or legend to abbreviations and acronyms**

WHMIS: Workplace Hazardous Materials Information System

**Key literature references and sources for data**

www.ChemADVISOR.com/

**Disclaimer Statement**

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