

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
645 - 7th Ave SW Suite 2200
Calgary, AB
T2P 4G8
Canada

Emergency Telephone Number (281) 575-5000

Prepared By

Chemical Compliance
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2. Hazard(s) Identification**WHMIS Classification**

WHMIS Hazard Class D2B Toxic Materials
E Corrosive Material

WHMIS 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

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

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 ³	15 mg/m ³

Appropriate engineering controls**Engineering Controls**

Use in a well ventilated area.

Personal Protective Equipment (PPE)**Respiratory Protection**

Dust/mist respirator. (N95, P2/P3)

Hand Protection

Impervious rubber gloves. Butyl rubber gloves. Nitrile gloves. Neoprene 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
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Information on basic physical and chemical properties**Physical State:** Solid**Color:** White**Odor:** Odorless**Odor Threshold:** No information availablePropertyValuesRemarks/ - Method**pH:**

12.2

pH Concentration of Solution:

No information available.

Freezing Point/Range

No information available.

Melting Point/Range

No information available

Boiling Point/Range (C):

No information available.

Flash Point/Range (C):

No information available.

Flash Point Method:

No information available.

Autoignition Temperature (C):

No information available.

Flammability Limits in Air - Lower (%):

No information available.

Flammability Limits in Air - Upper (%):

No information available.

Evaporation Rate (Butyl Acetate=1):

No information available.

Vapor Pressure @ 20 C (mmHg):

No information available.

Vapor Density (Air=1):

No information available.

Specific Gravity @ 20 C (Water=1):

2.24

Solubility in Water (g/100ml):

0.2

Solubility in other solvents

No information available.

Partition Coefficient/n-Octanol/Water:

No information available.

Decomposition Temperature (C):

No information available.

Viscosity

No information available

Explosive Properties

No information available

Oxidizing Properties

No information available

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

74.1

VOC Content (%)

No information available

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 embryotoxin.

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

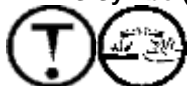
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

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 ClassD2B 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 datawww.ChemADVISOR.com/**Disclaimer Statement**

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