

SAFETY DATA SHEET CALCIUM OXIDE

Product Trade Name:

Revision Date: 23-Apr-2015

Revision Number: 10

1. Identification

1.1. Product Identifier

Product Trade Name: CALCIUM OXIDE
Synonyms: None
Chemical Family: Inorganic
Internal ID Code HM001747

1.2 Recommended use and restrictions on use

Application: pH Control
Uses Advised Against No information available

1.3 Manufacturer's Name and Contact Details

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

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

1.4. Emergency telephone number

Emergency Telephone Number (281) 575-5000

2. Hazard(s) Identification

2.1 Classification in accordance with paragraph (d) of §1910.1200

Skin Corrosion / Irritation	Category 2 - H315
Serious Eye Damage / Eye Irritation	Category 1 - H318
Specific Target Organ Toxicity - (Single Exposure)	Category 3 - H335

2.2. Label Elements

Hazard Pictograms



Signal Word Danger

Hazard Statements
H315 - Causes skin irritation
H318 - Causes serious eye damage
H335 - May cause respiratory irritation

Precautionary Statements

- Prevention**
 - P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
 - P264 - Wash face, hands and any exposed skin thoroughly after handling
 - P271 - Use only outdoors or in a well-ventilated area
 - P280 - Wear protective gloves/eye protection/face protection

- Response**
 - P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 - P332 + P313 - If skin irritation occurs: Get medical advice/attention
 - P362 - Take off contaminated clothing and wash before reuse
 - P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
 - P312 - Call a POISON CENTER/doctor/physician if you feel unwell
 - P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 - P310 - Immediately call a POISON CENTER or doctor/physician

- Storage**
 - P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

- Disposal**
 - P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

Contains Substances	CAS Number
Calcium oxide	1305-78-8

2.3 Hazards not otherwise classified
None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Calcium oxide	1305-78-8	60 - 100%	Skin Irrit. 2 (H315) Eye Corr. 1 (H318) STOT SE 3 (H335)

The exact percentage (concentration) of the composition has been withheld as proprietary.

4. First-Aid Measures

4.1. 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.
- Ingestion** Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

4.2 Most important symptoms/effects, acute and delayed

Causes severe eye irritation which may damage tissue. Causes skin irritation. May cause respiratory irritation.

4.3. Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically.

5. Fire-fighting measures**5.1. Extinguishing media****Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2 Specific hazards arising from the substance or mixture**Special Exposure Hazards**

Not applicable.

5.3 Special protective equipment and precautions for fire-fighters**Special Protective Equipment for Fire-Fighters**

Not applicable.

6. Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust.

See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Scoop up and remove.

7. Handling and storage**7.1. Precautions for Safe Handling****Handling Precautions**

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Wash hands after use. Launder contaminated clothing before reuse.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities**Storage Information**

Store in a cool, dry location.

8. Exposure Controls/Personal Protection**8.1 Occupational Exposure Limits**

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Calcium oxide	1305-78-8	5 mg/m ³	TWA: 2 mg/m ³

8.2 Appropriate engineering controls**Engineering Controls**

Use in a well ventilated area.

8.3 Individual protection measures, such as personal protective equipment

Personal Protective Equipment	If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
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	Chemical-resistant protective gloves (EN 374) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Nitrile gloves. (>= 0.4 mm thickness) This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced. Manufacturer's directions for use should be observed because of great diversity of types.
Skin Protection	Rubber apron.
Eye Protection	Dust proof goggles.
Other Precautions	Eyewash fountains and safety showers must be easily accessible.

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

Physical State: Solid	Color: White to gray
Odor: Odorless	Odor: No information available
	Threshold:

<u>Property</u>	<u>Values</u>
<u>Remarks/ - Method</u>	
pH:	12.4
Freezing Point/Range	No information available.
Melting Point/Range	No data available
Boiling Point/Range	2850 °C / 5162 °F
Flash Point	No data available
Flammability (solid, gas)	No data available
upper flammability limit	No data available
lower flammability limit	No data available
Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	3.4
Water Solubility	Reacts with water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

Molecular Weight	56.08
VOC Content (%)	No data available

10. Stability and Reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical Stability

Stable

10.3. Possibility of Hazardous Reactions

Will Not Occur

10.4. Conditions to Avoid

None anticipated

10.5. Incompatible Materials

Strong acids.

10.6. Hazardous Decomposition Products

None known.

11. Toxicological Information

11.1 Information on likely routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation.

11.2 Symptoms related to the physical, chemical and toxicological characteristics

Acute Toxicity

Inhalation	Causes severe respiratory irritation.
Eye Contact	Causes severe eye irritation. Will damage tissue.
Skin Contact	Causes skin irritation. May cause alkali burns with confined contact.
Ingestion	Irritation of the mouth, throat, and stomach.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

11.3 Toxicity data

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Calcium oxide	1305-78-8	> 2000 mg/kg (Rat)	> 2500 mg/kg	No data available

Substances	CAS Number	Skin corrosion/irritation
Calcium oxide	1305-78-8	Causes skin irritation. May cause skin burns.

Substances	CAS Number	Eye damage/irritation
Calcium oxide	1305-78-8	Causes eye burns. (Rabbit)

Substances	CAS Number	Skin Sensitization
Calcium oxide	1305-78-8	Patch test on human volunteers did not demonstrate sensitization properties

Substances	CAS Number	Respiratory Sensitization
Calcium oxide	1305-78-8	No information available

Substances	CAS Number	Mutagenic Effects
Calcium oxide	1305-78-8	In vitro tests did not show mutagenic effects
Substances	CAS Number	Carcinogenic Effects
Calcium oxide	1305-78-8	Did not show carcinogenic effects in animal experiments (similar substances)
Substances	CAS Number	Reproductive toxicity
Calcium oxide	1305-78-8	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
Substances	CAS Number	STOT - single exposure
Calcium oxide	1305-78-8	May cause respiratory irritation.
Substances	CAS Number	STOT - repeated exposure
Calcium oxide	1305-78-8	None under normal use conditions
Substances	CAS Number	Aspiration hazard
Calcium oxide	1305-78-8	Not applicable

12. Ecological Information

12.1. Toxicity

Ecotoxicity Effects

Product Ecotoxicity Data

No data available

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Calcium oxide	1305-78-8	EC50 (72h) 184.57 mg/L (Pseudokirchnerella subcapitata) (similar substance)	LC50 33.884 mg/L (Clarias gariepinus) LC50 (96h) 1070 mg/L (Cyprinus carpio) NOEC (46d) 100 mg/L (Tilapia nilotica)	EC50 (3h) 300.4 mg/L (activated sludge) (similar substances)	EC50 (48h) 49.1 mg/L (Daphnia magna) (similar substance) LC50 (96h) 158 mg/L (Crangon septemspinosa) (similar substance) NOEC (14d) 32 mg/L (Crangon septemspinosa) (similar substance) LC50 (14d) 53.1 mg/L (Crangon septemspinosa) (similar substance)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Calcium oxide	1305-78-8	The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Calcium oxide	1305-78-8	-0.571 BCF = 0.5

12.4. Mobility in soil

No information available

Substances	Mobility

Calcium oxide	No information available
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12.5 Other adverse effects

No information available

13. Disposal Considerations

13.1. Waste treatment methods

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
Environmental Hazards: Not applicable

US DOT Bulk

DOT (Bulk) Not applicable

Canadian TDG

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

IMDG/IMO

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

IATA/ICAO

UN Number: UN1910
UN Proper Shipping Name: Calcium oxide
Transport Hazard Class(es): 8
Packing Group: III
Environmental Hazards: 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	Acute Health Hazard
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.

16. Other information

Preparation Information

Prepared By

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Revision Date:

23-Apr-2015

Reason for Revision

SDS sections updated SECTION: 2

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 Stewardship at 1-580-251-4335.

Key or legend to abbreviations and acronyms

bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
ErC50 – Effective Concentration growth rate 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PEL – Permissible Exposure Limit
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
UN – United Nations
h - hour
mg/m³ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

Key literature references and sources for data

www.ChemADVISOR.com/

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End of Safety Data Sheet