

# Material Safety Data Sheet

## Calcium oxide

ACC# 04030

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Calcium oxide

**Catalog Numbers:** AC196910000, AC196910010, AC403895000, AC422830000, AC422830010, S79946, S79946-1, C114-3, C114-50, C117-500

**Synonyms:** Lime; Quicklime; Burnt lime; Calx; Unslaked lime; Fluxing lime; Calcia; Pebble lime.

**Company Identification:**

Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410

**For information, call:** 201-796-7100

**Emergency Number:** 201-796-7100

**For CHEMTREC assistance, call:** 800-424-9300

**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
1305-78-8	Calcium oxide	>98	215-138-9

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: white, light yellow, light gray powder.

**Danger!** Reacts with water releasing heat and forming alkaline  $\text{Ca}(\text{OH})_2$  solution. Causes eye and skin irritation and possible burns. May cause severe respiratory and digestive tract irritation with possible burns.

**Target Organs:** Respiratory system, eyes, skin, mucous membranes.

#### Potential Health Effects

**Eye:** Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. Causes eye irritation and possible burns.

**Skin:** Contact with skin causes irritation and possible burns, especially if the skin is wet or moist. May cause deep, penetrating ulcers of the skin.

**Ingestion:** May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. May cause circulatory system failure. May cause perforation of the digestive tract. May cause excess salivation, painful swallowing, rapid pulse and thermal burns.

**Inhalation:** May cause severe irritation of the upper respiratory tract with pain, burns, and inflammation. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.

**Chronic:** Prolonged or repeated skin contact may cause dermatitis. Chronic inhalation may cause nasal septum ulceration and perforation.

### Section 4 - First Aid Measures

**Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

**Skin:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

**Ingestion:** If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Contact with moisture or water may generate sufficient heat to ignite nearby combustible materials.

**Extinguishing Media:** Do NOT use carbon dioxide. Do NOT use halogenated agents. Use flooding quantities of water as spray.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 3; Flammability: 0; Instability: 1

### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Do not get in eyes, on skin, or on clothing. Do not breathe dust. Use only with adequate ventilation.

**Storage:** Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water. Corrosives area. Storage under a nitrogen blanket has been recommended.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Calcium oxide	2 mg/m <sup>3</sup> TWA	2 mg/m <sup>3</sup> TWA 25 mg/m <sup>3</sup> IDLH	5 mg/m <sup>3</sup> TWA

**OSHA Vacated PELs:** Calcium oxide: 5 mg/m<sup>3</sup> TWA (not in effect as a result of reconsideration)

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

**Physical State:** Powder

**Appearance:** white, light yellow, light gray

**Odor:** Odorless.

**pH:** Not available.

**Vapor Pressure:** Negligible.

**Vapor Density:** Not available.

**Evaporation Rate:** Negligible.

**Viscosity:** Not available.

**Boiling Point:** 2850 deg C @ 760 mmHg

**Freezing/Melting Point:** 2570 deg C

**Decomposition Temperature:** Not available.

**Solubility:** reacts with water with evolution of heat

**Specific Gravity/Density:** 3.3000g/cm<sup>3</sup>

**Molecular Formula:** CaO

**Molecular Weight:** 56.08

## Section 10 - Stability and Reactivity

**Chemical Stability:** Absorbs carbon dioxide from the air. Hygroscopic: absorbs moisture or water from the air. Reacts with water releasing heat and forming alkaline Ca(OH)<sub>2</sub> solution.

**Conditions to Avoid:** Exposure to moist air or water.

**Incompatibilities with Other Materials:** React with water to form calcium hydroxide and heat; reacts with carbon dioxide to form calcium carbonate. Incompatible with ethanol, boric oxide + calcium chloride, and interhalogens such as boron trifluoride, chlorine trifluoride, fluorine, hydrofluoric acid, phosphorus pentoxide, perchlorates, nitrates, and permanganates, acids.

**Hazardous Decomposition Products:** Calcium hydroxide.

**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

### RTECS#:

CAS# 1305-78-8: EW3100000

### LD50/LC50:

Not available.

### Carcinogenicity:

CAS# 1305-78-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No data available.

**Teratogenicity:** No data available.

**Reproductive Effects:** No data available.

**Mutagenicity:** No data available.

**Neurotoxicity:** No data available.

**Other Studies:**

## Section 12 - Ecological Information

No information available.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	CALCIUM OXIDE	CALCIUM OXIDE
<b>Hazard Class:</b>	8	8
<b>UN Number:</b>	UN1910	UN1910
<b>Packing Group:</b>	III	III
<b>Additional Info:</b>		REGULATED BY AIR ONLY

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 1305-78-8 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### SARA Codes

CAS # 1305-78-8: immediate, reactive.

#### Section 313

No chemicals are reportable under Section 313.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

#### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

#### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### STATE

CAS# 1305-78-8 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

#### California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

### European/International Regulations

#### European Labeling in Accordance with EC Directives

#### Hazard Symbols:

C

#### Risk Phrases:

R 34 Causes burns.

#### Safety Phrases:

S 25 Avoid contact with eyes.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**WGK (Water Danger/Protection)**

CAS# 1305-78-8: 1

**Canada - DSL/NDSL**

CAS# 1305-78-8 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of E.

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

**Canadian Ingredient Disclosure List**

CAS# 1305-78-8 is listed on the Canadian Ingredient Disclosure List.

**Section 16 - Additional Information**

**MSDS Creation Date:** 12/12/1997

**Revision #9 Date:** 6/06/2006

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.*