



SIGMA-ALDRICH

## Material Safety Data Sheet

Date Printed: 08/06/2007  
Date Updated: 01/24/2007  
Version 1.70

### Section 1 - Product and Company Information

**Product Name** Calcium oxide, ReagentPlus&#174;, 99.9% metals basis  
**Product Number** 208159  
**Brand** Aldrich Chemical

**Company** Sigma-Aldrich  
**Address** 3050 Spruce Street  
**City, State, Zip, Country** SAINT LOUIS, MO 63103 US  
**Technical Phone:** 800-325-5832  
**Fax:** 800-325-5052  
**Emergency Phone:** 314-776-6555

### Section 2 - Composition/Information on Ingredient

| <u>Substance Name</u> | <u>CAS #</u> | <u>SARA 313</u> | <u>EC no</u> | <u>Annex I Index Number</u> |
|-----------------------|--------------|-----------------|--------------|-----------------------------|
| CALCIUM OXIDE         | 1305-78-8    | No              | 215-138-9    |                             |

**Formula** CaO  
**Synonyms** Airlock, BELL cml(E), Burnt lime, Calcia, Calcium oxide (ACGIH:OSHA), Caloxol CP2, Caloxol W3, CALX, Calxyl, CML 21, CML 31, Desical P, Lime, Lima, burned, Oxyde de calcium (French), Quicklime, Rhenosorb C, Rhenosorb F, Wapniowy tlenek (Polish)

### Section 3 - Hazards Identification

#### Emergency Overview

Corrosive.  
Causes burns.

**HMIS Rating**  
Health: 3 Flammability: 0 Reactivity: 0

**NFPA Rating**  
Health: 3 Flammability: 0 Reactivity: 0

For additional information on toxicity, please refer to Section 11.

### Section 4 - First Aid Measures

#### Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

#### Inhalation Exposure

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

#### Dermal Exposure

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

#### Eye Exposure

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

### Section 5 - Fire Fighting Measures

**Autoignition Temp:** N/A

#### Firefighting

##### Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

##### Specific Hazard(s)

Emits toxic fumes under fire conditions.

### Section 6 - Accidental Release Measures

#### Procedure to be Followed in Case of Leak or Spill

Evacuate area.

#### Procedure(s) of Personal Precaution(s)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

#### Methods for Cleaning Up

Sweep up, place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

### Section 7 - Handling and Storage

#### Handling

##### User Exposure

Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

#### Storage

##### Suitable

Keep tightly closed.

### Section 8 - Exposure Controls / PPE

#### Engineering Controls

Safety shower and eye bath. Use only in a chemical fume hood.

#### Personal Protective Equipment

##### Respiratory

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

##### Hand

Compatible chemical-resistant gloves.

##### Eye

Chemical safety goggles.

#### General Hygiene Measures

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

#### Exposure Limits

##### Country

Poland  
Poland  
Poland

##### Type

NDS  
NDSCh  
NDSP

##### Value

2 MG/M3  
6 MG/M3  
-

**Exposure Limits, RTECS**

| <u>Country</u>                  | <u>Source</u>     | <u>Type</u> | <u>Value</u>   |
|---------------------------------|-------------------|-------------|----------------|
| USA                             | ACGIH             | TWA         | 2 MG/M3        |
| USA                             | MSHA Standard-air | TWA         | 3 MG/M3        |
| USA                             | OSHA              | PEL         | 8H TWA 5 MG/M3 |
| New Zealand                     | OEL               |             |                |
| <b>Remarks:</b> check ACGIH TLV |                   |             |                |
| USA                             | NIOSH             | TWA         | 2 MG/M3        |

**Section 9 - Physical/Chemical Properties**

| <u>Appearance</u>        | <u>Physical State</u> | <u>Color</u>                      | <u>Form</u>             |
|--------------------------|-----------------------|-----------------------------------|-------------------------|
|                          | Solid                 | White                             | Powder                  |
| <b>Molecular Weight:</b> | 56.08 AMU             |                                   |                         |
| <u>Property</u>          | <u>Value</u>          | <u>At Temperature or Pressure</u> | <u>Other</u>            |
| pH                       | 12.5 - 12.8           | 25 °C                             | Concentration: 1.65 g/l |
| BP/BP Range              | 2,850 °C              | 75 mmHg                           |                         |
| MP/MP Range              | 2,614 °C              |                                   |                         |
| Freezing Point           | N/A                   |                                   |                         |
| Vapor Pressure           | N/A                   |                                   |                         |
| Vapor Density            | N/A                   |                                   |                         |
| Saturated Vapor Conc.    | N/A                   |                                   |                         |
| SG/Density               | 3.3 g/cm3             |                                   |                         |
| Bulk Density             | N/A                   |                                   |                         |
| Odor Threshold           | N/A                   |                                   |                         |
| Volatile%                | N/A                   |                                   |                         |
| VOC Content              | N/A                   |                                   |                         |
| Water Content            | N/A                   |                                   |                         |
| Solvent Content          | N/A                   |                                   |                         |
| Evaporation Rate         | N/A                   |                                   |                         |
| Viscosity                | N/A                   |                                   |                         |
| Partition Coefficient    | N/A                   |                                   |                         |
| Decomposition Temp.      | N/A                   |                                   |                         |
| Flash Point °F           | N/A                   |                                   |                         |
| Flash Point °C           | N/A                   |                                   |                         |
| <b>Explosion Limits</b>  | N/A                   |                                   |                         |
| <b>Flammability</b>      | N/A                   |                                   |                         |
| <b>Autoignition Temp</b> | N/A                   |                                   |                         |
| <b>Solubility</b>        | N/A                   |                                   |                         |

N/A = not available

**Section 10 - Stability and Reactivity**

| <u>Stability</u>                                                                  |
|-----------------------------------------------------------------------------------|
| Stable.                                                                           |
| <b>Conditions of Instability</b>                                                  |
| Absorbs carbon dioxide from air. May decompose on exposure to moist air or water. |
| <b>Conditions to Avoid</b>                                                        |
| Moisture.                                                                         |

**Materials to Avoid**

Acids, Water.

**Hazardous Decomposition Products****Hazardous Decomposition Products**

Nature of decomposition products not known.

**Hazardous Polymerization****Hazardous Polymerization**

Will not occur.

**Section 11 - Toxicological Information****Route of Exposure****Skin Contact**

Causes burns.

**Skin Absorption**

May be harmful if absorbed through the skin.

**Eye Contact**

Causes burns.

**Inhalation**

Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May be harmful if inhaled.

**Ingestion**

May be harmful if swallowed.

**Signs and Symptoms of Exposure**

Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**RTECS Number:** EW3100000**Irritation Data**

Skin - Rabbit:

Remarks: No irritation effect

Skin - Human:

Remarks: Severe irritation effect

Eyes - Rabbit:

Remarks: Severe irritation effect

**Section 12 - Ecological Information**

No data available.

**Acute Ecotoxicity Tests****Test Type**

LC50 Fish

**Species**

Cyprinus carpio

**Time:**

96.0 h

**Value:**

1,070 mg/l

**Section 13 - Disposal Considerations****Appropriate Method of Disposal of Substance or Preparation**

Contact a licensed professional waste disposal service to dispose of this material.

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Observe all federal, state, and local environmental regulations.

## Section 14 - Transport Information

### DOT

**Proper Shipping Name:** Calcium oxide  
**UN#:** 1910  
**Class:** 8  
**Packing Group:** Packing Group III  
**Hazard Label:** Corrosive  
**PIH:** Not PIH

### IATA

**Proper Shipping Name:** Calcium oxide  
**IATA UN Number:** 1910  
**Hazard Class:** 8  
**Packing Group:** III

## Section 15 - Regulatory Information

### EU Additional Classification

**Symbol of Danger:** C

**Indication of Danger**

Corrosive.

**Risk Statements**

R: 34

Causes burns.

**Safety Statements**

S: 26 36/37/39 45

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### US Classification and Label Text

**Indication of Danger**

Corrosive.

**Risk Statements**

Causes burns.

**Safety Statements**

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### United States Regulatory Information

**SARA Listed:** No

**TSCA Inventory Item:** Yes

### Canada Regulatory Information

#### WHMIS Classification

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

**DSL:** Yes

**NDSL:** No

## Section 16 - Other Information

### Disclaimer

For R&D use only. Not for drug, household or other uses.

### Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

RECEIVED  
AUG 13 2007  
Safety & Environmental  
Health