



SIGMA-ALDRICH

Material Safety Data Sheet

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Version 1.70

Section 1 - Product and Company Information

Product Name: Calcium oxide, ReagentPlus®, 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

Table with 5 columns: Substance Name, CAS #, SARA 313, EC no, Annex I Index Number. Row 1: CALCIUM OXIDE, 1305-78-8, No, 215-138-9.

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.

Table with 3 columns: Exposure Limits, Country, Type, Value. Rows for Poland with values 2 MG/M3 and 6 MG/M3.

Exposure Limits, RTECS

Country	Source	Type	Value
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		
Remarks: check ACGIH TLV			
USA	NIOSH	TWA	2 MG/M3

Section 9 - Physical/Chemical Properties**Appearance**

Physical State	Color	Form
Solid	White	Powder

Molecular Weight: 56.08 AMU

Property	Value	At Temperature or Pressure	Other
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		

Explosion Limits N/A

Flammability N/A
 Autoignition Temp N/A
 Solubility N/A

N/A = not available

Section 10 - Stability and Reactivity**Stability****Stable**

Stable.

Conditions of Instability

Absorbs carbon dioxide from air. May decompose on exposure to moist air or water.

Conditions to Avoid

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.

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Health