



LABORATORY CHEMICALS AND CONSUMABLES
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MATERIAL SAFETY DATA SHEET

CALCIUM OXIDE

1. Chemical Product and Company information.

Product name: Calcium Oxide

Contact Information:

Radchem cc
PO Box 166982
Brackendowns
Alberton 1454
Telephone : **011 867 3726 / 2864**

2. Hazard Identification

Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive). The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe overexposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

3. Composition / information on ingredients

CAS #: 1305-78-8

Synonym: Quicklime; Lime

Chemical Name: Calcium oxide

Chemical Formula: CaO

4. First Aid Measures

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. WARM water MUST be used. Get medical attention immediately.

Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.



Serious Skin Contact: Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

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

Serious Inhalation: Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or Corrosive. Seek immediate medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

5. Fire-fighting measures

Flammability of the Product: Non-flammable

Fire Hazards in Presence of Various Substances: Not applicable

Explosion Hazards in Presence of Various Substances: Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable

Special Remarks on Fire Hazards: Chlorine Trifluoride reacts violently with calcium oxide producing flame.

Special Remarks on Explosion Hazards: Not applicable

6. Accidental release measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid.

Large Spill: Corrosive solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapours. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of acetic acid. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

7. Handling and storage

Precautions: Keep container dry. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as organic materials, acids, moisture.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 24°C

8. Exposure controls/personal protection

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use



ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Splash goggles. Synthetic apron. Vapour and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Vapour and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

9. Physical and chemical properties

Physical state and appearance: Solid (Crystalline solid)

Odour: Odourless

Taste: Not available

Colour: White

Boiling Point: 2850°C

Melting Point: 2572°C

Critical Temperature: Not available

Specific Gravity: 3.33 (Water = 1)

Vapour Density: Not available

Volatility: Not available

Odour Threshold: Not available

Ionicity (in Water): Not available.

Dispersion Properties: Not available

Solubility: Soluble in acids, glycerol, and sugar solution. Practically insoluble in alcohol. Very slightly soluble in cold water, hot water. Insoluble in methanol, diethyl ether, n-octanol.

10. Stability and reactivity

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials

Incompatibility with various substances: Reactive with organic materials, acids, moisture.

Corrosivity: Not available

Special Remarks on Reactivity: Absorbs CO₂ from air. Reacts with fluorine to evolve much heat and some light. Reacts with water. Addition of water to Quicklime has generated temperatures as high as 800 C. Some reports describe the reaction as violent. In water, calcium oxide forms calcium hydroxide generating a large quantity of heat. Ignition of sulphur, gunpowder, wood, and straw by heat of Quicklime-water reaction has been reported. Liquid hydrofluoric acid and calcium oxide react very violently. Calcium reacts with phosphorous pent oxide extremely violently when initiated by local heating. Lime becomes incandescent when heated to near its melting point (2500 C).

Special Remarks on Corrosivity: Not available

Polymerization: Will not occur.



11. Toxicological information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals: LD50: Not available. LC50: Not available.

Chronic Effects on Humans: Not available

Other Toxic Effects on Humans: Very hazardous in case of skin contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive).

Special Remarks on Toxicity to Animals: Not available

Special Remarks on Chronic Effects on Humans: Not available

Special Remarks on other Toxic Effects on Humans: Acute Potential Health Effects: Skin: Causes skin irritation and burns. Eyes: Causes eye irritation and burns. Inhalation: Material is irritating to respiratory tract and mucous membranes and upper respiratory tract. Ingestion: May be harmful if swallowed. Irritates gastrointestinal tract with possible burns. Swallowing may become painful, and difficult. A burning pain extends down the oesophagus to the stomach. May affect respiration. Vomitous is thick and slimy due to mucous. Later is may contain blood shred of mucous membrane due to necrosis.

12. Ecological information

Ecotoxicity: Not available.

BOD5 and COD: Not available

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

13. Disposal considerations

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport information

DOT Classification: Class 8: Corrosive material

Identification: : Calcium Oxide UNNA: 1910 PG: III

Special Provisions for Transport: Not available

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 Radchem CC. 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 Radchem CC has been advised of the possibility of such damages.

