



Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300

# MATERIAL SAFETY DATA SHEETS

## SECTION I

### PRODUCT AND COMPANY IDENTIFICATION

**Product: Calcium hydroxide**

**This MSDS is valid for all grades and catalog #'s**

Synonyms: Hydrated lime; Slaked Lime; Calcium Oxide, hydrated; calcium dihydroxide, carboxide, Formula:

Ca(OH)<sub>2</sub>

Manufacturer: PHARMCO-AAPER  
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## SECTION II

### COMPOSITION /INFORMATION ON INGREDIENTS

% by Material CAS # TLV/PE LC50/LD50  
weight L

% by weight	Material	CAS #	TLV/PE L	LC50/LD50
100	Calcium hydroxide	1305-62-0	TWA: 5 (mg/m <sup>3</sup> ) from ACGIH (TLV) United States] TWA: 5 (mg/m <sup>3</sup> ) [Canada] TWA: 5 (mg/m <sup>3</sup> ) from NIOSH	ORAL (LD50): Acute: 7340 mg/kg [Rat]. 7300 mg/kg [Mouse].

## SECTION III

### HAZARDS IDENTIFICATION

**Potential Acute Health Effects:** Very hazardous in case of eye contact (irritant). Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator). Possibly corrosive to eyes. 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 over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching.

**Potential Chronic Health Effects:** Hazardous in case of skin contact (irritant). Slightly hazardous in case of skin contact (sensitizer).

**CARCINOGENIC EFFECTS:** Not available.

**MUTAGENIC EFFECTS:** Not available.

**TERATOGENIC EFFECTS:** Not available.

**DEVELOPMENTAL TOXICITY:** Not available.

The substance may be toxic to upper respiratory tract, skin, eyes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

## SECTION IV

### FIRST AID

Obtain medical attention for all cases of over-exposure.

**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. 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. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

**Hazardous 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 immediately.

**Hazardous Inhalation:** Not available.

**Ingestion:** Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

**Hazardous Ingestion:** Not available.

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**SECTION V  
FIRE FIGHTING MEASURES**

**Fire:**

Flammability of the Product: Non-flammable.

Auto-Ignition temperature: Not applicable.

Flash point: Not applicable.

Flammable limits: Not applicable.

Products of Combustion: Not available.

**Fire Hazards:** Not applicable.

**Explosion Hazards:** 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 Extinguishing Media:** Not applicable.

**Special Information:** Alkaline hydroxides boiled with phosphorus yields mixed phosphines which may ignite spontaneously in air.

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**SECTION VI**

**SPILL/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. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**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 vapors. 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. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

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**SECTION VII**

**HANDLING AND STORAGE**

**Precautions:** Keep container dry. Do not ingest. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as acids.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 25°C (77°F).

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**SECTION VIII**

**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. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or

equivalent. Gloves (impervious).

**Personal Protection in Case of a Large Spill:** Splash goggles. Full suit. 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.

**Exposure Limits:** TWA: 5 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States] TWA: 5 (mg/m<sup>3</sup>) [Canada] TWA: 5 (mg/m<sup>3</sup>) from NIOSH

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**SECTION IX**

**PHYSICAL AND CHEMICAL PROPERTIES**

**Physical State/Appearance:** Solid. (Powdered solid.)

**Molecular Weight:** 74.1 g/mole

**Odor:** Odorless.

**Taste:** Bitter. Alkaline (Slight.)

**Color:** White.

**pH (1% Solution in Water):** Not available.

**Boiling Point:** Not available.

**Melting Point:** 580°C (1076°F)

**Critical Temperature:** Not available.

**Specific Gravity:** 2.24 (Water = 1)

**Vapor Pressure (mm Hg):** Not applicable.

**Vapor Density (Air=1):** Not available.

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Water/Oil Dist. Coefficient:** Not available.

**Ionicity (in water):** Not available.

**Dispersion Properties:** See solubility in water.

**Solubility:** Very slightly soluble in cold water, hot water.

Insoluble in alcohol. Soluble in ammonium salts, glycerol, sugar or ammonium chloride solution, soluble in acids with evolution of much heat. Solubility in water: 0.185 g/100 ml @ 0 deg. C; 0.077 g/100 ml @ 100 deg. C; 1.73 g/1000 ml @ 20 C

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**SECTION X**

**STABILITY/REACTIVITY INFORMATION**

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Incompatible materials, air

**Incompatibilities:** Reactive with acids.

**Corrosivity:** Non-corrosive in presence of glass.

**Special Information:** Incompatible with maleic anhydride, phosphorous, nitroethane, nitromethane, nitroparaffins, nitropropane, polychlorinated phenols + potassium nitrate. When chlorinated phenols are heated for analytical purposes with calcium hydroxide-potassium nitrate mixtures, chlorinated benzodioxins analogous to extremely toxic tetrachlorodibenzodioxin may be formed. Readily absorbs CO<sub>2</sub> from air forming calcium carbonate. Loses water when ignited to form Calcium Oxide. Decomposes at boiling point.

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**SECTION XI**

**TOXICOLOGICAL INFORMATION**

**Routes of Entry:** Absorbed through skin. Inhalation. Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD50): 7300 mg/kg [Mouse].

**Chronic Effects on Humans:** Not available.

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

**Special Information on Toxicity to Animals:** Not available.

**Special Information on Chronic Effects/Toxicity on Humans:** May affect genetic material (mutagenic).

**Mutagenicity:** Cytogenic analysis [Rat]: Cell type: Ascities tumor; Dose: 1200 mg/kg. Acute Potential Health Effects:

on other Toxic Skin: Causes skin irritation. Alkalies penetrate skin slowly. The extent of damage depends on the duration of contact. Eyes: Causes severe irritation of the eyes. May cause "Lime Burns" of the eye. Clumps may lodge deep in the recesses of the eye, releasing calcium hydroxide over a long period of time. Severe burns of the cornea with possible damage to corneal nerves may occur.

**Ingestion:** Causes gastrointestinal tract irritation with vomiting, diarrhea, severe pain. Vomitus may contain blood and desquamated mucosal lining. May cause delayed gastrointestinal burns and perforation (gastric or esophageal) with severe abdominal pain and rapid fall in blood pressure.

**Inhalation:** Causes severe irritation of the respiratory tract (nose, throat, lungs), and mucous membranes with coughing, wheezing and/or shortness of breath. Material is destructive to tissue of the mucous membranes and upper respiratory tract. Chronic Potential Health Effects: Prolonged or repeated skin contact may produce severe irritation or dermatitis.

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## SECTION XII

### 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 Information on Products of Biodegradation:** Not available.

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## SECTION XIII

### DISPOSAL CONSIDERATIONS

**Waste Disposal:** Recycle to process, if possible. Consult your local or regional authorities.

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## SECTION XIV

### TRANSPORTATION INFORMATION

**DOT Classification:** DOT Not a DOT controlled material (United States).

**UN:** Not applicable.

**Special Provisions for Transport:** Not applicable.

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## SECTION XV

### REGULATORY INFORMATION

**Federal and State Regulations:** Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312). Components present in this product at a level which could require reporting under the statute are: **NONE**  
Superfund Amendments and Reauthorization Act of (SARA) Title III requires submission of annual report release of toxic chemicals that appear in 40 CFR 372 (used for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material. Components present in this product at a level which could require reporting under the statute are: **NONE**

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal or greater than the reportable quantities (RQs) in 40 CFR 302.4. Components present in this product at a level which could require reporting under the statute are: **NONE**

**Other Classifications:**

WHMIS (Canada): CLASS E: Corrosive solid.

DSCL (EEC): R38- Irritating to skin. R41- Risk of serious damage to eyes.

**Protective Equipment:** Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

**References:** Not available.

**Other Special Considerations:** Major Uses: In lubricants, drilling fluid, pesticides, fungicides, fireproofing coatings, water paint; as an egg preservative; in manufacturing of paper pulp; in SBR rubber vulcanization; in dehairing hides; in water treatment; in mortar, plaster, cement and other binding and paving materials; chemical intermediate; correcting agent in brewing manufacturing; component of dental cement; buffering agent for metals, pearls, celluloid; water softening; purification of sugar juices; in petrochemicals; food additive as a buffer and neutralizing; deacidification processes involving paper production.

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The information contained herein is based on data considered to be accurate based on the material as packaged. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It is the user's obligation to determine the conditions of safe use of the product. While this MSDS is based on technical data judged to be reliable, PHARMCO-AAPER assumes not responsibility for the

completeness or accuracy of the information contained herein.