

MATERIAL SAFETY DATA SHEET

Chemical Product

Product Name: CALCIUM HYDROXIDE 96% AR

CAS#: 1305-62-0

Synonym: Hydrated lime; Slaked Lime;

Calcium Oxide, hydrated

Chemical Name: Calcium Hydroxide

Chemical Formula: Ca(OH)₂

Composition and Information on Ingredients

Name	S.K.U	% by Weight
{+--} CALCIUM HYDROXIDE	GCS-1903	100

Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of eye contact (irritant). Hazardous in case of skin contact (irritant), of eye contact (corrosive), of ingestion, of inhalation. Corrosive to eyes and skin. 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).

CARCINOGENIC

EFFECTS:

Not available.

MUTAGENIC

EFFECTS:

Not available.

TERATOGENIC

EFFECTS: Not available.

DEVELOPMENTAL

TOXICITY: Not available.

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.

First Aid Measures

Eye Contact: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

Skin Contact: After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

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

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation: Not available.

Ingestion: Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: Not available.

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

Special Remarks on Explosion Hazards: Not available.

Accidental Release Measures

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish

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

Large Spill:

Use a shovel to put the material into a convenient waste disposal container. 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.

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).

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.

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: 0.05 CEIL: 0.2 (mg/m³) Consult local authorities for acceptable exposure limits.

Physical and Chemical Properties

Physical state and appearance:	Solid. (Powdered solid.)
Odor	: Odorless.
Taste	: Bitter. Alkaline. (Slight.)
Molecular Weight	: 74.1g/mole
Color	: White.
pH (1% soln/water)	: 14 [Basic.]
Boiling Point	: Not available.
Melting Point	: 580°C (1076°F)
Critical Temperature	: Not available.
Specific Gravity	: 2.24 (Water = 1)
Vapor Pressure	: Not applicable.
Vapor Density	: Not available.
Volatility	: Not available.
Odor Threshold	: Not available.
Water/Oil Dist. Coeff.	: 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

Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials, air

Incompatibility with various substances : Reactive with acids.

Corrosivity : Non-corrosive in presence of glass.

Special Remarks on Reactivity: 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 tetrachloro dibenzodioxin may be formed. Readily absorbs CO₂ from air forming calcium carbonate.

Special Remarks on Corrosivity : Not available.

Polymerization: Will not occur.

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:

Extremely hazardous in case of eye contact (irritant) Hazardous in case of skin contact (irritant), of eye contact (corrosive), of ingestion, inhalation Slightly hazardous in case of skin contact (corrosive, permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Mutagenicity: Cytogenic analysis [Rat]: Cell type: Ascities tumor; Dose: 1200 mg/kg

Special Remarks on other Toxic Effects on Humans : Acute Potential Health Effects: 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. Can 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 to corneal nerves can 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.

Toxicological Data on Ingredients: Calcium hydroxide: ORAL (LD50): Acute: 7340 mg/kg [Rat.]. 7300 mg/kg [Mouse].

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 products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

Disposal Considerations

Waste Disposal:

Transformation Information

Land transport (ADR-RID)

General information : Not regulated.

Sea transport (IMDG) [English only]

General information : Not regulated.

Air transport (ICAO-IATA) [English only]

General information : Not regulated.

Other Regulatory Information

Federal and State Regulations : Illinois toxic substances disclosure to employee act: Calcium hydroxide Rhode Island RTK hazardous substances: Calcium hydroxide Pennsylvania RTK: Calcium hydroxide Minnesota: Calcium hydroxide Massachusetts RTK: Calcium hydroxide New Jersey: Calcium hydroxide California Director's list of Hazardous Substances: Calcium hydroxide TSCA 8(b) inventory: Calcium hydroxide.

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):
CLASS E: Corrosive solid.

DSCL (EEC):

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HMIS (U.S.A.):

Health Hazard: 2
Fire Hazard: 0
Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):
Health: 2

Flammability: 0

Reactivity: 0

Specific hazard:

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.



Additional Information

References: Not available.

Other Special Considerations: Not available.

Disclaimer:

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