

MATERIAL SAFETY DATA SHEET

Product Name: **HYDRATED LIME**

1. IDENTIFICATION OF THE SUBSTANCE AND COMPANY

Identification of the substance:

Chemical Name: Calcium Hydroxide

Product Name(s): Hydrated Lime

Formula: Ca(OH)_2

CAS #: 1305-62-0

Molecular Weight: 74.08

Material Uses: Functional in Foods

Miscellaneous and General Purpose; buffer; neutralizing agent, firming agent.

2. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	% by Weight	CAS#	Exposure Limits
Calcium Hydroxide	>85	1305-62-0	OSHA PEL: 15mg/m ³ (total), 5mg/m ₃ (resp) ACGIH TLV: 5 mg/m ³ O.Reg. 833 TWAEV: 5 mg/m ³ LD ₅₀ oral (rat) 7340 mg/kg.
Silica - crystalline quartz	<1	14808-60-7	OSHA PEL: 10 mg/m ³ (total dust) ; 3.3 mg/m ³ (respirable)

HAZARD IDENTIFICATION AND CLASSIFICATION

Overview :	Hydrated Lime is an odorless white or grayish-white granular powder. Contact to eyes, skin, respiratory system, and gastrointestinal tract. Contact may aggravate disorders of eyes, skin, gastrointestinal tract, And respiratory system.
Eyes:	Can cause severe irritation or burning of eyes, including permanent Damage.
Skin:	Can cause severe irritation or burning of skin, especially in the presence of Moisture.
Ingestion:	Can cause severe irritation or burning of gastrointestinal tract if swallowed
Inhalation:	Can cause severe irritation or the respiratory system. Long-term exposure May cause permanent damage. Hydrated lime is not listed by MSHA, OSHA, or IARCH as a carcinogen to humans when inhaled. Inhalation of Silica can also cause a chronic lung disorder, silicosis.
Irritant:	Eyes, mucous membranes, moist skin, respiratory tract.
Flammability:	This product is not flammable or combustible
Explosive:	This product is not explosive in dust form
Reactivity:	May react violently with strong acids producing heat and possible steam Explosion in confine space
Symbols:	WHMIS Symbol: "E" Corrosive Material; "D2A" Material causing other Toxic effects.

HEALTH EFFECTS AND TREATMENTS

Health Effects:

- Inhalation: Acute: irritation, sore throat, cough, sneezing. Chronic: persistent Coughing and breathing problems. Long-term exposure to silica a chronic Lung disorder, silicosis.
- Eyes: Acute: severe irritation, intense tearing, burns. Chronic: possible Blindness when exposure is prolonged.
- Skin: Acute: removes natural skin oils, blotches, itching and superficial burns in Case of sweating. Chronic: no known effects.
- Ingestion: Acute: sore throat, stomach aches, cramps, diarrhea, vomiting. Chronic: No known effects.

Treatments:

- Inhalation: Move victim to fresh air. Seek medical attention if necessary. If breathing Has stopped, give artificial respiration.
- Eyes: Immediately flush eyes with large amounts of water for at least 15 minutes Pull back the eyelid to make sure all the time dust has been washed out. Seek medical attention immediately. Do not rub eyes.
- Skin: Flush exposed area with large amount of water. Seek medical attention Immediately. Never give anything by mouth if victim is rapidly losing Consciousness or is unconscious or convulsing.

EXPOSURE CONTROL / PERSONAL PROTECTION

- Exposure Limits:** Calcium hydroxide: 15 mg/m³ (OSHA-total); 5 mg/m³ (OSHA-resp); 5 mg/m³ (ACGIH, O. Reg.833)
Silica (crystalline quartz): 10mg/m³ (total dust); 3.3 mg/m³ (respirable) (OSHA); 0.05 mg/m³ (respirable -ACGI); 0.1 mg/m³ (O.Reg. 845)

- Engineering Controls:** Use ventilation and dust collection to control to below applicable limits.

Respiratory Protection: Wear NIOSH N-95 Dust Mask.

- Eye Protection:** Eye protection (chemical goggles, safety glasses and/or face Shield) should be worn where there is a risk of hydrated lime exposure. Contact lenses should not be worn when working with Lime products.

- Hand Protection:** Use clean dry gloves.

- Skin Protection:** Cover body with suitable clothes (long sleeves shirts and trousers). Use over the ankle waterproof caustic resistant footwear.

PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
Odor & Appearance:	Odorless, white powder
pH:	12.4 in saturated water solution at 25°C
Melting point:	580°C
Boiling point:	2850°C
Vapor pressure:	Non volatile
Vapor density:	Non volatile
Density :	2.24 g/cc
Solubility :	Slightly soluble in water 0.2% @0°C Soluble in acids, glycerin and sugar solutions

STABILITY AND REACTIVITY

Stability:	Stable products, not very soluble
Decomposition temperature:	580°C, forms calcium oxide (CaO) and water
Reactivity:	Reacts with acids to form calcium salts while generating heat. Reacts with carbon dioxide in air to form calcium carbonate.
Conditions to Avoid:	Vicinity of incompatible materials.
Incompatible materials:	Acids; reactive fluoride, brominated or phosphorous Compound; aluminum (may form hydrogen gas), reactive Powdered metals; organic acid anhydrides; nitrogen-Organic compounds; interhalogenated compounds.
Hazardous decomposition products:	Calcium oxide (CaO).

TOXICOLOGICAL INFORMATION

Toxicity:	LD50 oral (rat) for calcium hydroxide is 7340 mg/kg. This product is not listed by MSHA, OSHA, or IARC as a carcinogen, but this Product may contain crystalline silica, which has been classified by IARC as (Group I) carcinogen to humans when inhaled in the form of quartz or cristobalite. No reported Carcinogenicity, Reproductive Effects, Teratogenicity or Mutagenicity.
Exposure Limits:	Refer to section V.
Irritancy:	Can cause severe irritation of eyes, skin, respiratory tract and Gastrointestinal tract.
Chronic Exposure:	Inhalation of Silica can cause a chronic lung disorder, silicosis.

ECOLOGICAL INFORMATION

Alkaline substance that increase pH to a maximum of 12.4 in a saturated water solution at 25oC.

Calcium hydroxide gradually reacts with CO₂ in air to form carbonate (CaCO₃)

Calcium carbonate is ecologically neutral.

Uncontrolled spillage in surface waters should be avoided since the increase pH could detrimental to fish.

Harmful to aquatic life in high concentration.

DISPOSAL CONSIDERATIONS

Dispose according to federal, provincial/state and local environmental regulations.

TRANSPORTATION INFORMATION

Classification:	TDG	Not listed for ground transportation
	HMR	Not listed for ground transportation

TDG: Transportation of Dangerous Goods Regulation

HMR: Hazardous Material Regulation