



## MSDS - High Calcium Hydrated Lime

Issued September 30, 2009

### Section 1. Product Information

Chemical Name: Calcium Hydroxide

Chemical Family: Alkaline earth hydroxide

Trade Name/Synonym: Hydrated Lime, Lime Slaked lime, Lime Putty, Lime Slurry, Milk of Lime, Calcium Hydroxide

Distributed by Pestell Minerals & Ingredients, New Hamburg, ON Canada

**24 Hour Emergency Telephone (Canutec): 613-996-6666**

### Section 2. Hazardous Ingredients

Hazardous Ingr.	% by Wt.	CAS #	Exposure Limits					
			OSHA PEL	ACGIH TLV	RSST VEMP	MSHA PEL	NIOSH REL	NIOSH IDLH
-	-	-						
Complex Mixture	% by Wt	-	TWA 8/40h	TWA 8/40h	TWA 8/40h	TWA 8/40h	TWA 10/40h	-
Calcium Hydroxide	92 - 100	1305-62-0	15(tot dust) 5 resp. dust	5	5	5	5	N/A
Crystalline Silica Quartz	0.1 - 1	14808-60-7	10/(%SiO <sub>2</sub> ) +2 respirable silica dust	10/(%SiO <sub>2</sub> ) +2 respirable silica dust	0.1 respirable silica dust	10/(%SiO <sub>2</sub> ) +2 respirable silica dust	0.05 respirable silica dust	50
Crystalline Silica Quartz	0.1 - 1 (Note 1)	14808-60-7	10/(%SiO <sub>2</sub> ) +2 respirable silica dust	10/(%SiO <sub>2</sub> ) +2 respirable silica dust	0.1 respirable silica dust	10/(%SiO <sub>2</sub> ) +2 respirable silica dust	0.05 respirable silica dust	50

(Note 1): Concentration of crystalline silica in a series of lime products will vary from source to source. It was not detected on some samples (<0.1% w/w). Therefore two ranges are being disclosed. (Note 2): ACGIH TLV Version 1973 has been adopted by the Mine Safety Health Administration (MSHA) as the regulatory Exposure Standard.

### Section 3. Physical Data

Physical State:	Solid	Odor/Appearance:	Slightly earthy, fine white powder
Specific Gravity:	2.3 - 2.4	pH:	12.45 at 25.0°C (saturated)
Melting Point:	N/A	Boiling Point:	Not applicable
Vapor Pressure:	N/A	Bulk Density:	320 - 690
Solubility: 0.165g/100g Sat. soln			

### Section 4. Fire and Explosion Hazard

Fire: Non flammable, non combustible

Extinguishing Media: Calcium Hydroxide does not burn. Use extinguishing media appropriate to surrounding fire conditions.

## Section 5. Reactivity

Stability: Absorbs carbon dioxide in the air to form calcium carbonate.

Incompatible Materials: Boron tri-fluoride, chlorine tri-fluoride, fluorine, hydrogen fluoride, phosphorous pentoxide, and acids (violent reaction with generating heat and possible explosion in confined area).

Reactivity: Reacts violently with strong acids. React chemically with acids and many other compounds and chemical elements to form calcium based compounds. Explosive when mixed with nitro organic compounds.

Hazardous Decomposition Products: Thermal decomposition at 540°C will produce calcium oxide and water.

## Section 6. Toxicological Properties

**Routes of Entry:** Skin, eyes, acute inhalation, ingestion

**Effects of Acute Exposure:**

**Skin:** Severe irritation of mucous and skin, removes natural skin oils.

**Eyes:** Severe eye irritation, intense watering of the eyes, possible lesions, possible blindness when exposed for prolonged period. Eye-Rabbit-10mg/24h - Severe

**Inhalation:** If inhaled in form of dust, irritation of breathing passages, cough, sneezing

**Ingestion:** If ingested: pain, vomiting, blood, diarrhea, collapse, drop in blood pressure, (indicates perforation of esophagus or stomach)

**Effects of Chronic Exposure to Product**

**Contract dermatitis.** Following repeated or prolonged contact, this product can cause redness, desquamation and fissures. This product may contain trace amounts of crystalline silica. Excessive inhalation of respirable crystalline silica dust may result in respiratory disease, including silicoses, pneumoconiosis and pulmonary fibrosis.

LD50 of Product: Food grade Ca(OH)<sub>2</sub>: 7340mg/kg (rat, ingestion)

LC50 of Product: Unavailable

Irritancy of Product: Severe to moist tissues

Calcium Hydroxide is not listed as a carcinogen by **ACGIH, MSHA, OSHA, NTP or IARC**. It may, however, contain trace amounts of Crystalline Silica listed carcinogens by these organizations.

Crystalline Silica, which inhaled in the form of quartz or crystobalite from occupational sources, is classified by **IARC** as Group 1 carcinogenic to humans.

Silica, crystalline (Airborne particles of respirable size) is regulated under California's Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

**NIOSH** considers crystalline silica to be potential occupational carcinogen as defined by the OSHA carcinogen policy (29 CFR 1910.105).

**NTP** lists respirable Crystalline Silica as known to be human carcinogens based on sufficient evidence of carcinogenicity in humans.

**ACGIH** lists respirable Crystalline Silica (quartz) as suspected human carcinogen (A-2)

**RSST** lists respirable Crystalline Silica (quartz) as suspected human carcinogen.

## Section 7. Preventive Measures

**Protective Equipment**

Wear clean, dry gloves, full length pants over boots, long sleeved shirt buttoned at the neck, head protection and approved eye protection selected for the working conditions.

**Gloves:** Gauntlets Cuff style

**Respiratory:** NIOSH approved (N/R/P95) dust respirator

**Eyes:** Tight fitting goggles with side shields. Do not wear contact lenses when handling this material.

**Footwear:** Resistant to caustic

**Clothing:** Fully covering skin

**Other:** Evaluate degree of exposure and use PPE if necessary. After handling lime, employees must shower. If exposed daily, use oil, Vaseline, silicone base cream, etc. to protect exposed skin, particularly neck, face and wrist.

**Engineering Controls:** Enclose dust sources; use exhaust ventilation (dust collector) at handling points, keep levels below Max. Concentration Permitted.

**Leak and Spill Procedures:** Limit access to trained personnel. Use industrial vacuums for large spills. Ventilate area.

**Waste Disposal:** Transport to disposal area or bury. Review Federal, Provincial and local Environmental regulations.

**Handling Procedures and Equipment:** Avoid skin and eye contact. Minimize dust generation. Wear protective goggles and in case of insufficient ventilation, use anti dust mask. An eye wash station and safety shower should be readily available where this material or its water dispersions are used. Contact lenses should not be worn when working with this chemical.

**Storage Requirements:** Keep tightly closed containers in a cool, dry, well ventilated area, away from acids. Keep out of reach of children.

**Special Shipping Information:** Calcium Hydroxide is neither regulated by the Transport of Dangerous Goods (TDG) Regulations (Canada) nor by the Hazardous Materials Regulations (USA).

## Section 8. First Aid Measures

**Skin:** Carefully and gently brush the contaminated body surfaces in order to remove all traces of lime. Use a brush, cloth or gloves. Remove all lime contaminated clothing. Rinse contaminated area with lukewarm water for 15 to 20 minutes. Consult a physician if exposed area is large or if irritation persists.

**Eyes:** Immediately rinse contaminated eyes with gently running lukewarm water (saline solution is preferred) for 15 to 20 minutes. In the case of an embedded particle in the eye, or chemical burn, as assessed by first aid trained personnel, contact a physician.

**Inhalation:** Move source of dust or move victim to fresh air. Obtain medical attention immediately. If victim does not breathe, give artificial respiration.

**Ingestion:** If victim is conscious, give 300ml (10oz) of water, followed by diluted vinegar (1 part vinegar, 2 parts water) or fruit juice to neutralize the alkali. Do not induce vomiting. Contact a physician immediately.

**General Advice:** Consult a physician for all exposures except minor instances of inhalation.

**Transportation: Hazardous Materials Regulations (USA) and Transportation of Dangerous Goods (TDG) Regulations (Canada)**

**Calcium Hydroxide does not appear on the regulatory listings**

**Disclaimer**

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