



# MATERIAL SAFETY DATA SHEET

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## HOT LIME

### SECTION I: IDENTIFICATION OF PRODUCT

**Product Name:** HOT LIME  
**Chemical Family:** Calcium Oxide  
**WHMIS Classification:** D2A; E  
**Workplace Hazard:** Potential carcinogen; corrosive solid

**Product Use:** Emulsifier activator  
**TDG Classification:** Not regulated  
**Packaging Group:** Not applicable  
**PIN:** Not applicable

### SECTION II: HAZARDOUS INGREDIENTS

Ingredients	Percent	CAS Number	LD <sub>50</sub> (Species/Route)	LC <sub>50</sub> (Species/Route)
Calcium Oxide	>90	1305-78-8	Not available	Not available
Crystalline Silica Quartz	0.1-1.0 0-0.1*	14808-60-7	Not available	Not available

\* 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.

### SECTION III: TOXICOLOGICAL PROPERTIES

**Route of entry:**  Skin  Eye Contact  Inhalation  Ingestion

**Effects of acute exposure:** Corrosive solid. Will cause severe eye irritation. Solid will react exothermically with water to produce corrosive calcium hydroxide. Direct contact may cause conjunctival edema and corneal destruction; can lead to, and may cause, blindness. If skin is moist, this product will cause severe irritation and burning. Can penetrate skin slowly, producing soft, necrotic, deep chemical burns. Can cause burning and edema of digestive tract, abundant salivation, difficulties in swallowing and breathing, vomiting blood, drop in blood pressure (indicates perforation of esophagus or stomach). Dust, or mists formed from concentrated solutions, is very irritating to the upper respiratory tract. Inflammation of the respiratory passages, ulceration and perforation of the nasal septum and pneumonia have been attributed to the inhalation of calcium oxide dust. Limited solubility of the product in water means that effects may continue for several days.

**Effects of chronic exposure:** Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Long term inhalation of crystalline silica may cause silicosis; a progressive, disabling and sometimes fatal lung disease. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function. Chronic inhalation exposure to crystalline silica quartz has been observed to cause lymph node effects, kidney effects and auto-immune disease.

**Exposure limits:** ACGIH TLV - Calcium oxide 2 mg/m<sup>3</sup>, crystalline silica 0.025 mg/m<sup>3</sup> respirable

**Irritancy of product:** Severe irritant

**Sensitization to product:** Not available

**Carcinogenicity:** Calcium oxide is not listed by IARC, NTP, OHSA or ACGIH. However, processed lime could contain crystalline silica, which when inhaled in the form of quartz from occupational sources is carcinogenic to humans: IARC has concluded that this chemical is carcinogenic to humans (Group 1); ACGIH has designated this chemical as a suspected human carcinogen (A2); NTP has listed this chemical as a known human carcinogen.



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**Reproductive toxicity:** No information available

**Teratogenicity:** No information available

**Mutagenicity:** Crystalline silica has been shown to cause mutagenic effects in human cells in-vitro

**Name of toxicological synergistic products:** No information available

## SECTION IV: FIRST AID MEASURES

**Skin contact:** Quickly and gently brush away excess chemical. Thoroughly flush with running water while removing contaminated clothing. If large area exposed or irritation or burning persists obtain medical attention. Launder contaminated clothing before re-use. Discard contaminated footwear and leather goods.

**Eye contact:** Flush with gently flowing warm water for minimum 30 minutes, or until irritation ceases; hold eyelids open to ensure thorough flushing. Neutral saline may be used as soon as it is available. Obtain medical attention when flushing is complete and no further irritation is felt, or permanent damage may result.

**Inhalation:** Move to area free from dust. Obtain immediate medical attention.

**Ingestion:** Do not induce vomiting. Obtain immediate medical attention. If immediate medical attention is not available; rinse mouth thoroughly with water then give one glass of water followed by one glass of milk if available. If spontaneous vomiting occurs, re-administer water. Never give anything by mouth unless victim is fully conscious

## SECTION V: PHYSICAL DATA

**Physical state:** Solid.

**Appearance and odour:** White crystalline powder; slight earthy odour.

**Odour threshold:** Not applicable

**Specific gravity:** 3.25 - 3.38

**Vapor pressure (mmHG):** Not applicable

**Vapor density (Air=1):** Not applicable

**Evaporation rate:** Not applicable

**Boiling point (°C):** 2850

**Freeze/Melting point (°C):** 2570-2625

**pH:** 12.45 (saturated solution)

**Co-efficient of water/oil distribution:** 0.125g/100mL @ 25°C



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## SECTION VI: FIRE AND EXPLOSION DATA

**Conditions of flammability:** Bulk powder calcium oxide may heat spontaneously when damp. Humidity or contact with water may generate sufficient heat to ignite flammable and combustible materials.

**Means of extinguishing:** Use media appropriate for packaging and surrounding materials.

**Flash point:** Not applicable

**Upper flammable limit:** Not applicable

**Lower flammable limit:** Not applicable

**Auto-ignition temperature:** Not applicable

**Hazardous combustion products:** Not applicable

**Explosion data-sensitivity to mechanical impact:** Not applicable

**Explosion data-sensitivity to static discharge:** Not applicable

## SECTION VII: REACTIVITY DATA

**Chemically unstable (conditions):** Unstable

**Product incompatible with:** Avoid contact with boron trifluoride, chlorine trifluoride, ethanol, fluorine, hydrogen fluoride, phosphorus pentoxide; water and acids (violent reaction with generation of heat and possible explosion in confined area).

**Conditions of reactivity:** Reacts violently with strong acids. Reacts with water to form calcium hydroxide. The heat generated when mixed with water or moist air is sufficient enough to ignite surrounding materials such as paper, wood or cloth.

**Hazardous decomposition products:** Calcium hydroxide and heat



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## SECTION VIII: PREVENTATIVE MEASURES

**Personal protective equipment:** NIOSH approved dust masks or respirators for silica bearing dust required if ventilation is inadequate. Suggest rubber gloves. Wear tight fitting chemical goggles. Do not wear contact lenses. Protective clothing as required to prevent contact. Ensure eye-wash station and emergency shower are available.

**Specific engineering controls:** Use local exhaust ventilation, process enclosure or other engineering controls to maintain PEL's/TLV's.

**Procedures for leak/spills:** Use appropriate safety equipment. Keep spilled material away from organic materials and other incompatible materials. Do not use floor sweep or sawdust to absorb this product, or solutions of this product, as sufficient heat may be generated to self-ignite (Danger: Ignition may be delayed). Vacuum up, if possible, to avoid generating airborne dust. Collect uncontaminated material for repackaging. Collect contaminated material in approved containers for disposal. Flush spill area with copious quantities of water.

**Waste disposal:** Dispose of in accordance with federal, provincial and local regulations. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal. Empty containers, which have not been cleaned and purged, contain residual hazardous material and must be recycled, or disposed of, in accordance with local regulations.

**Handling procedures and equipment:** This product is corrosive. Wear appropriate protective equipment. Avoid creating dust. Avoid breathing dust. Avoid skin and eye contact. After handling lime, employees must shower. If exposed daily, use oil, Vaseline, silicone base crème etc. to protect exposed skin, particularly neck, face and wrists. Clean spills promptly to avoid making dust.

**Storage requirements:** Store in cool, dry area away from incompatibles. Keep containers away from contact with water. Dry all equipment before use. Wash all equipment thoroughly with water when handling is completed. Empty packages contain residual hazardous material and should be handled as if full.

**Special shipping information:** Not applicable

## SECTION IX: PREPARATION

**Date updated:** February 2, 2010

**Prepared by:** Product Safety Committee

All the recommendations and suggestions herein concerning this product are based upon tests and data believed to be reliable, however it is the user's responsibility to determine the safety, toxicity and sustainability for their own use of the product described herein. Since the actual use by others is beyond our control, no guarantee, expressed or implied, is made by Q'Max Solutions Inc. as to the effects of such use, the results to be obtained, or the safety and toxicity of the product nor does Q'Max Solutions Inc. assume any liability arising out of use by others. Nor is the information herein to be considered as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.