



MATERIAL SAFETY DATA SHEET

#1700, 407 2ND STREET S.W., CALGARY, ALBERTA T2P 2Y3
TELEPHONE: (403) 269-2242 FAX: (403) 269-2251
1-613-996-6666 – CANUTEC – Transportation Emergency
1-888-243-9771 – ChExSS – Chemical Exposure

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LIME-HYDRATED

SECTION I: IDENTIFICATION OF PRODUCT

Product Name: LIME-HYDRATED
Chemical Family: Alkaline earth hydroxide
WHMIS Classification: E; D2A
Workplace Hazard: Corrosive, potential carcinogen
Product Use: PH control, Calcium source.

TDG Classification: Not regulated
Packaging Group: Not applicable
PIN: Not applicable
CAS#: 1305-62-0

SECTION II: HAZARDOUS INGREDIENTS

Ingredients	Percent	CAS Number	LD ₅₀ (Species/Route)	LC ₅₀ (Species/Route)
Calcium Hydroxide	92-100	1305-62-0	7340 mg/kg	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 irritation, intense watering of the eyes, possible lesions, and possible blindness when exposed for prolonged period. Acute contact may cause irritation. Can penetrate the skin slowly, producing soft, necrotic, deeply penetrating chemical burns. Effects could include severe pain and burning of the mouth, throat and esophagus, stomach cramps, vomiting and diarrhea. Ingestion of large quantities may be corrosive to the gastrointestinal tract; may cause perforation of the esophagus or stomach. Low oral toxicity. Inhalation of dust will cause irritation of the upper respiratory tract. Solubility of product allows further penetration that may continue for several days. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Long term inhalation may cause silicosis, a progressive, disabling and sometimes-fatal lung disease.

Effects of chronic exposure: 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 Hydroxide	5 mg/m ³
Crystalline silica, quartz	0.025 mg/m ³ respirable

Irritancy of product: Irritant

Sensitization to product: Not applicable

Carcinogenicity: Calcium oxide is not listed by IARC, NTP, OSHA 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



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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.

Reproductive toxicity: No information available

Teratogenicity: No information available

Mutagenicity: Crystalline silica has been shown to cause mutagenic effect 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 product. Flush with running water for 15 to 20 minutes while removing contaminated clothing. Obtain medical attention if large area is exposed or irritation persists.

Eye contact: Flush eyes with gently running 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 only when flushing is complete.

Inhalation: Move patient to fresh air. Give oxygen or apply artificial respiration if required. Get immediate medical assistance.

Ingestion: Do not induce vomiting. Obtain immediate medical attention. If immediate medical attention is unavailable; rinse mouth thoroughly with water, then give one glass of water followed by one glass of milk (if available). If spontaneous vomiting occurs, readminister water. Never give anything by mouth to an unconscious or convulsing victim.

SECTION V: PHYSICAL DATA

Physical state: Solid.

Appearance and odour: Fine white powder; slight earthy odour.

Odour threshold: Not applicable

Specific gravity: 2.3 - 2.4

Vapor pressure (mmHG): Not applicable

Vapor density (Air=1): Not applicable

Evaporation rate: Not applicable

Boiling point (°C): Not applicable

Freeze/Melting point (°C): Not applicable

pH: 12.45 (Salt Solution)

Co-efficient of water/oil distribution: 0.165g/100g @ 20°C



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SECTION VI: FIRE AND EXPLOSION DATA

Conditions of flammability: Not flammable

Means of extinguishing: Lime-Hydrated does not burn. Use extinguishing media appropriate to surrounding fire conditions.

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: Boron trifluoride, chlorine trifluoride, ethanol, fluorine, hydrogen fluoride, phosphorus pentoxide, and acids (violent reaction generating heat and possible explosion in confined area). Absorbs CO₂ from the air to form calcium carbonate.

Conditions of reactivity: Reacts violently with strong acids. Reacts exothermically with acids and many other compounds and chemical elements to form calcium based compounds. Explosive when mixed with nitro compounds.

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



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SECTION VIII: PREVENTATIVE MEASURES

Personal protective equipment: NIOSH approved filtering anti-dust mask. Clean, dry gloves. Gauntlets Cuff style. Tight-fitting goggles should be worn. Long sleeved shirt with collar buttoned. Trousers with legs down over boots. Fully cover skin. Footwear should be resistant to caustics. Barrier creams on exposed skin.

Specific engineering controls: Enclose dust sources. Use exhaust ventilation (dust collector) at handling points, keep levels below Max. concentration permitted.

Procedures for leak/spills: Use appropriate safety equipment. Ventilate area. Avoid creating dust. Sweep up and collect spilled material. Collect uncontaminated material for repackaging. Collect contaminated material for disposal in an approved container for disposal. Flush spill area with copious quantities of water.

Waste disposal: Dispose 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 packaging contains residual hazardous material and should be recycled, or disposed of, in accordance with local regulations.

Handling procedures and equipment: Avoid creating dust. Avoid inhalation. Avoid contact with eyes and skin. 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.

Storage requirements: Store in a cool, dry well-ventilated area out of direct contact with weather. Store away from incompatible materials. Keep product dry at all times. Keep container tightly closed when not in use. Empty containers contain residual hazardous material and should be handled as if full.

Special shipping information: Not applicable

SECTION IX: PREPARATION

Date updated: October 7, 2009

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.