

MATERIAL SAFETY DATA SHEET

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NO. 39

CALCIUM HYDROXIDE
Revision A

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SECTION I. MATERIAL IDENTIFICATION

MATERIAL NAME: CALCIUM HYDROXIDE

OTHER DESIGNATIONS: Hydrated Lime, High Calcium Hydrated Lime, Caustic Lime, Calcium Hydrate, Slaked Lime, $\text{Ca}(\text{OH})_2$, ASTM C259, C53, etc. GE Material D4B3, CAS #001 305 620

MANUFACTURER: Material available from many sources, including:

Ash Grove Cement Co.
P.O. Box 25900
Overland Park, KS 66255
Tel: (913) 381-8901

Harshaw Chemical Co.
1945 E. 97th Street
Cleveland, OH 44106
Tel: (216) 721-8300

Warner Co., Ind. Mineral Div.
P.O. Box 448
Bellefonte, PA 16823
(Tel: (717) 355-4761

SECTION II. INGREDIENTS AND HAZARDS

Typical Composition:*

Calcium hydroxide, $\text{Ca}(\text{OH})_2$	>90	8-hr TWA 5mg/m ³ **
Calcium carbonate, CaCO_3	<4	
Magnesium oxide, MgO	<3	
Other oxides (Al_2O_3 , Fe_2O_3 , SiO_2 , etc.)	<3	

*Commercial material prepared by hydration of lime.

**ACGIH (1984) TLV; no specific OSHA PEL established
(minimum control would be as a nuisance particulate).

Rat, Oral
LD₅₀ 7.3 gm/kg

SECTION III. PHYSICAL DATA

Decomposition point ($-\text{H}_2\text{O}$), ---	580	Specific gravity ($\text{H}_2\text{O}=1$) -----	2.3-2.4
Water solubility, g/100 ² sat. solution:		pH of saturated solution at 25 C -	12.5
at 0 C -----	0.185	Molecular weight $\text{Ca}(\text{OH})_2$ -----	74.1
at 25 C -----	0.159		
at 100 C -----	0.017		

Appearance & Odor: Crystals or soft, white powder or granules. Odorless.

SECTION IV. FIRE AND EXPLOSION DATA

Flash Point and Method	Autoignition Temp.	Flammability Limits in Air	Lower	Upper
N/A	N/A	N/A	--	--

Extinguishing media: This material is not combustible. Use extinguishing media which is appropriate for the surrounding fire.

When heated above 580 C, material can decompose to produce CaO. When this material is involved in a fire situation, firefighters should wear full protective clothing, and use eye protection and self-contained breathing apparatus.

SECTION V. REACTIVITY DATA

This is a stable solid in a sealed container at room temperature. When exposed to the air it will slowly absorb carbon dioxide to form calcium carbonate. When heated at temperatures above 580 C, it loses water to form calcium oxide or lime.

Calcium hydroxide is a strongly alkaline material which is incompatible with acidic materials. It forms salts with nitroparaffins in the presence of water which are explosive when dried. It can cause the explosive decomposition of maleic anhydride. Boiling elemental phosphorus in a calcium hydroxide solution can liberate spontaneously flammable phosphines. It liberates NH_3 from ammonium salts.

SECTION VI. HEALTH HAZARD INFORMATION	TLV 5 mg/m ³
<p>This material in the presence of moisture, is a moderately caustic irritant and can be damaging to human tissue. Excessive skin contact will irritate the skin and produce dermatitis. Eye contact gives a burning sensation with severe irritation and possible damage. Inhalation in particulate form is irritating and can be damaging to the mucous membranes of the upper respiratory tract. Do not ingest.</p> <p>FIRST AID:</p> <p><u>Eye Contact:</u> Promptly flush with plenty of running water, including under eyelids, for at least 15 minutes; then, get prompt medical attention.</p> <p><u>Skin Contact:</u> Wash exposed skin with plenty of water. Remove contaminated clothing promptly. Get medical help if exposed area is large or if irritation persists.</p> <p><u>Inhalation:</u> Remove to fresh air. Contact physician immediately.</p> <p><u>Ingestion:</u> Dilute by giving 2 glasses of water or milk to drink, followed by fruit juice or diluted vinegar to neutralize the alkali; then consult physician.</p>	
SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES	
<p>Those involved in clean up of spills should use protective equipment (See Sect. VIII). Pick up spilled powder <u>avoiding dusting conditions</u> and place in a clean steel container for reclaim or disposal. Safety personnel should be involved when large spills occur. Traces of residue can be flushed to the sewer with much water dilution.</p> <p>DISPOSAL: Consider the following methods of disposing of scrap material: Use to neutralize waste acid; spread on surface or ground in an isolated, protected area to react with CO₂ from the air to form CaCO₃ (limestone); or disperse in water, neutralize with hydrochloric acid, precipitate with soda ash and flush to sewer with much water to keep below 250 mg NaCl/liter. Follow Federal, State, and Local regulations.</p>	
SECTION VIII. SPECIAL PROTECTION INFORMATION	
<p>Provide general ventilation and local exhaust ventilation for dust control (or mist control if used as a water dispersion) to meet TLV requirements. Vent dust to appropriate collector. Provide approved dust or mist respirators or self-contained respirators for non-routine or emergency use above the TLV.</p> <p>Wear rubber gloves, protective clothing, long sleeve shirt with buttoned collar, apron, safety glasses or goggles, face shield, etc. to prevent skin or eye contact with this material as required for the conditions under which it is used. Use of protective creams on areas of skin exposed to dust has been recommended.</p> <p>An eyewash station and safety shower must be readily available where this material, or its water dispersions, are used.</p> <p>Remove severely contaminated clothing promptly and launder before reuse.</p>	
SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS	
<p>Store in a cool, dry area in tightly closed containers. Protect containers from physical damage. Keep away from acidic materials and other incompatibles (See Sect. V). Prevent contact with clothing or with the body, or inhalation of dust or solution mist. Use due caution in mixing with water and handling the alkaline water dispersions of this material (milk of lime). Follow good personal hygiene practices. Wash thoroughly after handling.</p>	
DATA SOURCE(S) CODE: 1, 2, 4-9, 11, 14, 20, 47	
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