

## SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Carbide Lime

**CHEMICAL NAME:** Calcium Hydroxide

**CHEMICAL FAMILY:** Metallic Hydroxide

**FORMULA:** Ca(OH)<sub>2</sub>

**PRODUCT USE:** Various chemical and industrial uses, such as pH control, industrial water and sewage treatment, soil & roadbed stabilization and flue gas desulfurization

**MANUFACTURER'S NAME:** Carbide Industries, LLC

**ADDRESS:** 4400 Bells Lane  
Louisville, Kentucky 40211

P. O. Box 3727  
Louisville, Kentucky 40201

**PHONE:** 1-800-626-2578

**WEB ADDRESS:** [www.carbidellc.com](http://www.carbidellc.com)

**EMERGENCY PHONE:** Carbide Industries 1-502-775-4123 (24 hr.)  
Chemtrec 1-800-424-9300

## SECTION 2 - HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** Carbide lime is a light gray material, sized from large clumps to a fine powder. It can also be in the form of a suspension in water, varying from a watery mix to a thick paste.

**WARNING!** May cause skin and eye irritation.

**PHYSICAL AND CHEMICAL RISKS:** Carbide lime is an alkaline material, and may cause irritation to skin and to the eyes.

**OSHA REGULATORY STATUS:** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

### POTENTIAL HEALTH EFFECTS:

- **INHALATION:** Irritating to the respiratory tract. May cause nausea, vomiting, coughing, excess sputum and chest discomfort. May cause pulmonary edema.
- **EYES:** Exposure may cause severe irritation, experienced as pain, excess tearing, conjunctival edema and hemorrhage, corneal edema and opacification.
- **SKIN:** Exposure may cause irritation, seen as redness, with possible swelling
- **INGESTION:** Exposure can cause burns to mouth, throat and digestive tract.

**CHRONIC EFFECTS:** Long term exposure may cause dermatitis.

**MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:** Inhalation may aggravate asthma and inflammatory or fibrotic pulmonary disease. Because of its irritating properties, this material may aggravate an existing dermatitis.

**POTENTIAL ENVIRONMENTAL EFFECTS:** Due to the alkaline nature of this material, spills to water sources can lead to high pH values. Adequate precautions should be taken to prevent unauthorized discharge, spills or leakage into rivers, lakes, streams, sewers, or on to lands where it may adversely affect the environment or wildlife.

## SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	PERCENTAGE
Calcium Hydroxide	1305-62-0	Greater than 95%

## SECTION 4 - FIRST AID MEASURES

### FIRST AID PROCEDURES:

- **INHALATION:** Remove to fresh air. If breathing has stopped, artificial respiration should be applied. Get prompt medical attention if symptoms persist.
- **EYES:** Immediately flush eyes with running water for 15 minutes, including under eyelids. Get prompt medical attention if irritation persists.
- **SKIN:** Brush off excess material, flush with copious amounts of water and wash affected area with soap and water. Vinegar may be used to remove residual lime.
- **INGESTION:** Dilute by drinking water or milk. Do not induce vomiting. Get prompt medical attention

**NOTE TO PHYSICIANS:** Bodily contact with carbide lime mirrors the health effects seen from contact with alkali hydroxides and the appropriate medical treatment is identical.

## SECTION 5 - FIRE FIGHTING MEASURES

**FLAMMABLE PROPERTIES:** Carbide lime is not flammable, nor is there any flash point. The NFPA 704M rating is 1-0-0.

**EXTINGUISHER MEDIA:** Not flammable.

**SPECIFIC HAZARDS ARISING FROM THE CHEMICAL:** Although carbide lime is not flammable, it is produced from the reaction of water and calcium carbide producing the flammable gas acetylene. As such, there is the possibility that carbide lime slurries may contain small amounts of dissolved acetylene, possibly evolving a flammable mixture.

**PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS:** Carbide lime is an alkaline substance. When heated above 580(C), it will dissociate into water vapor and calcium oxide (CaO). When present in a fire in an enclosed area, full protective clothing, eye protection, and self-contained breathing apparatus should be worn.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

### EMERGENCY PROCEDURES:

- Evacuate all personnel from affected areas.
- Use appropriate personal protective equipment as recommended in Section 8.
- Contain release by preventing additional release, as well as spread of spill.

### METHODS FOR CLEAN-UP:

- In the granular and caked form, carbide lime may be shoveled up and returned to the holding vessel.
- For slurries, portable pumps may be used, or the material may be allowed to dry before clean-up.

## SECTION 7 - HANDLING AND STORAGE

**HANDLING:** Care should be taken to minimize contact of carbide lime. Freshly produced carbide lime slurry may evolve acetylene, a flammable gas. As such, no smoking, flames or open lights should be allowed where such material is being processed. Consumption of food and beverages should be prohibited in the work area. Access to handling and storage areas should be limited to trained, authorized personnel.

**STORAGE:** Store in clean, ventilated area. Isolate incompatible materials (see Section 10). Post “No Smoking” or “No Open Flames” signs in storage areas. Accumulations of acetylene after its release from the freshly generated slurry can be ignited by any ignition source. All electrical equipment used in or around carbide lime handling or storage areas should comply with the requirements of the National Electrical Code.

## SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE GUIDELINES:

COMPONENT	THRESHOLD LIMIT VALUE	PERMISSIBLE EXPOSURE LIMIT
Calcium Hydroxide	5 mg/m <sup>3</sup> TWA ACGIH	15 mg/m <sup>3</sup> (total) / 5 mg/m <sup>3</sup> (respirable) OSHA

**ENGINEERING CONTROLS:** Ventilation may be used where required to reduce dusting.

- LOCAL EXHAUST Yes
- MECHANICAL (General) Yes
- SPECIAL No

### PERSONAL PROTECTIVE EQUIPMENT (PPE):

- Eye/face protection – safety glasses with side shields, face shield or goggles for handling slurry,
- Protective gloves; leather for dry material, rubber for slurry,
- Long sleeve shirts, pants, rubber apron for slurry areas.
- Eye wash stations and safety showers in work areas.

**RESPIRATORY PROTECTION:** NIOSH/MSHA respirator for nuisance dusts and mists (NIOSH-N95 approved)

## SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE:** Gray granular solid to whitish powder, or grayish slurry when mixed with water. Freshly generated carbide lime will exhibit slight ammonia odor.

**PHYSICAL STATE:** Granular solid / liquid slurry

**BOILING POINT:** 580(C) - dissociates

**DENSITY (H<sub>2</sub>O = 1):** 2.24

**SOLUBILITY IN WATER:** 0.185 grams / milliliter at 0(C)

**pH:** 12.45 (Saturated solution at 77(F) as per EPA test procedure 9040B in SW-846)

**REACTIVITY IN WATER :** None

## SECTION 10 – STABILITY AND REACTIVITY

**CHEMICAL STABILITY:** Stable.

**REACTIVITY:** Will neutralize acid solutions

**POSSIBILITY OF HAZARDOUS REACTIONS:** None

**INCOMPATIBLE MATERIALS:** Acidic materials, organic nitro compounds, maleic anhydride, phosphorus and copper.

**HAZARDOUS DECOMPOSITION PRODUCTS:** None

## SECTION 11 – TOXICOLOGICAL INFORMATION

Carbide lime is chemically identical to calcium hydroxide. Calcium hydroxide is a mild alkali, which can cause irritation to the skin, eyes and mucous membranes. Freshly produced carbide lime can contain trace amounts of phosphine, ammonia, hydrogen sulfide and arsine, which are toxic. Symptoms of acetylene poisoning are dizziness, and in larger concentrations, unconsciousness.

### ACUTE DOSE EFFECTS:

**LD<sub>50</sub>:** 7340 mg/kg (oral – rat)

**LC<sub>50</sub>:** None

**CARCINOGENICITY:** Carbide lime is not listed as cancer causing in either the National Toxicology Program, I.A.R.C Monographs or by OSHA.

## SECTION 12 - ECOLOGICAL INFORMATION

While not hazardous, carbide lime is alkaline and will raise pH levels. All efforts should be made to limit the introduction of carbide lime into the environment.

Carbide lime does not contain any Class I or Class II ozone depleting chemicals (40 CFR Part 82).

### Acute and Long Term Toxicity to Fish and Invertebrates:

TLm Mosquito Fish: 240 ppm/24 hr.; 220 ppm/48 hr. @ 69.8 (F) to 73.4 (F) (21 (C) to 23 (C)

## SECTION 13 – DISPOSAL CONSIDERATIONS

Carbide lime is typically consumed in many industrial processes, such as water treatment, road stabilization and acid neutralization. When desired, carbide lime can be disposed of in licensed waste facilities, however all federal, state and local regulations should be observed.

## SECTION 14 – TRANSPORT INFORMATION

### BASIC SHIPPING DESCRIPTION:

- **PROPER SHIPPING NAME:** Calcium Hydroxide
- **UN NUMBER:** NA
- **HAZARD CLASS:** NA
- **UN NUMBER:** NA

### ADDITIONAL INFORMATION:

- **MARINE POLLUTANT:** Carbide Lime is not designated by the DOT to be a Marine Pollutant.
- **REPORTABLE QUANTITY ( RQ):** NONE
- **PACKAGING:** Tank truck, dump truck

## SECTION 15 – REGULATORY INFORMATION

### APPLICABLE REGULATIONS:

- Calcium hydroxide is listed in the TSCA Inventory

## SECTION 16 - OTHER INFORMATION

**SDS REVISION:** 3.0

**SDS AUTHORIZATION DATE:** March 1<sup>st</sup>, 2010