SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Carbide Lime

CHEMICAL NAME: Calcium Hydroxide

CHEMICAL FAMILY: Metallic Hydroxide

FORMULA: Ca(OH)2

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

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

SECTION 2 - HAZARDS IDENTIFICATION

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

Hazard Classification:

- Skin Corrosive – Category 1
- Serious Eye Damage – Category 1

DANGER

HAZARD STATEMENTS:

- CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.
- CAUSES SERIOUS EYE DAMAGE.
- MAY CAUSE RESPIRATORY IRRITATION.
PRECAUTIONARY STATEMENTS:

- Avoid contact with eyes and skin.
- Wear appropriate personal protective equipment, avoid direct contact.
- Wear protective eyewear (goggles, face shield and/or safety glasses).
- Avoid breathing dust.
- Wash skin thoroughly after handling.
- IF IN EYES: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
- IF INHALED: Remove victim to fresh air and keep at rest. Get medical attention.

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>CAS NUMBER</th>
<th>PERCENTAGE</th>
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<tbody>
<tr>
<td>Calcium Hydroxide</td>
<td>1305-62-0</td>
<td>Greater than 95%</td>
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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:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
- **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 3-0-0.
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 1076°F (580°C), it will dissociate into water vapor and calcium oxide (CaO). When present in a fire situations 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 and prevent spread of material.

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 with 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/m³ TWA ACGIH       15 mg/m³ (total) / 5 mg/m³ (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, long 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 may exhibit slight ammonia odor.

PHYSICAL STATE: Granular solid / liquid slurry

BOILING POINT: 1076° F (580° C) - dissociates

DENSITY (H₂O = 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.

ACUTE DOSE EFFECTS:

\[ \text{LD}_{50}: \ 7340 \text{ mg/kg (oral – rat)} \quad \text{LC}_{50}: \text{None} \]

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:

\[ \text{TLm Mosquito Fish: 240 ppm/24 hr.; 220 ppm/48 hr. @ 69.8 (F) to 73.4 (F) (21 (C) to 23 (C)} \]

SECTION 13 - DISPOSAL CONSIDERATIONS

The data in this Safety Data Sheet relates only to the specific material designated herein and does not apply to the product's use in combination with other materials or for unintended use.
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

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: 3.1
SDS AUTHORIZATION DATE: May 15th, 2015