

# Calcium Carbide



MSDS # 142.00

## Section 1: Product and Company Identification

### Calcium Carbide

**Synonyms/General Names:** N/A

**Product Use:** For educational use only

**Manufacturer:** Columbus Chemical Industries, Inc., Columbus, WI 53925.

#### 24 Hour Emergency Information Telephone Numbers

**CHEMTREC (USA): 800-424-9300**

**CANUTEC (Canada): 613-424-6666**

Scholar Chemistry; 5100 W. Henrietta Rd, Rochester, NY 14586; (866) 260-0501; www.Scholarchemistry.com

## Section 2: Hazards Identification

*Black lumps, powder; foul odor*

**DANGER!** Contact with water produces heat and flammable acetylene gas and possibly fire. Fire risk when added to water.

Target organs: None available

HMIS (0 to 4)

|             |   |
|-------------|---|
| Health      | 0 |
| Fire Hazard | 2 |
| Reactivity  | 2 |

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

## Section 3: Composition / Information on Ingredients

Calcium Carbide, (75-20-7), 65-85%.

Calcium Oxide, (1305-78-8), 10-30%.

## Section 4: First Aid Measures

*Always seek professional medical attention after first aid measures are provided.*

**Eyes:** Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.

**Skin:** Immediately flush skin with excess water for 15 minutes while removing contaminated clothing.

**Ingestion:** Call Poison Control immediately. Rinse mouth with cold water. Give victim 1-2 tbsps of activated charcoal mixed with 8 oz water.

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration.

## Section 5: Fire Fighting Measures

Flammable solid. When heated to decomposition, emits acrid fumes. Contact with water produces flammable acetylene gas which will ignite.

**Protective equipment and precautions for firefighters:** Do Not Use carbon dioxide, foam, water or halogenated extinguishing agents. Use class D extinguisher or smother with soda ash, dry sand, dry clay, dry sodium chloride or dry graphite. Firefighters should wear full fire fighting turn-out gear and respiratory protection (SCBA).

Material is not sensitive to mechanical impact or static discharge.



## Section 6: Accidental Release Measures

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Remove all ignition sources and ventilate area. Water-reactive metal – keep away from all water. Pick up pieces and place material in a dry container for disposal. See Section 13 for disposal information.

## Section 7: Handling and Storage

Red

**Handling:** Water-Reactive, keep away from water. Use with adequate ventilation and do not breathe dust or vapor. Avoid contact with skin, eyes, or clothing. Wash hands thoroughly after handling.

**Storage:** Store in Flammable Area [Red Storage] with other flammable materials and away from any strong oxidizers. Store in a dedicated flammables cabinet. Store in a cool, dry, well-ventilated, locked store room away from incompatible materials.

## Section 8: Exposure Controls / Personal Protection

Use ventilation to keep airborne concentrations below exposure limits. Have approved eyewash facility, safety shower, and fire extinguishers readily available. Wear chemical splash goggles and chemical resistant clothing such as gloves and aprons. Wash hands thoroughly after handling material and before eating or drinking. Use NIOSH-approved respirator with a dust cartridge. Exposure guidelines: Calcium Carbide: OSHA PEL: N/A and ACGIH TLV: N/A, STEL: N/A.

**Section 9: Physical and Chemical Properties**

|                              |                          |                              |                                    |
|------------------------------|--------------------------|------------------------------|------------------------------------|
| <b>Molecular formula</b>     | CaC <sub>2</sub>         | <b>Appearance</b>            | Black lumps, powder.               |
| <b>Molecular weight</b>      | 64.10.                   | <b>Odor</b>                  | Foul odor.                         |
| <b>Specific Gravity</b>      | N/A.                     | <b>Odor Threshold</b>        | N/A.                               |
| <b>Vapor Density (air=1)</b> | N/A.                     | <b>Solubility</b>            | Reacts violently.                  |
| <b>Melting Point</b>         | 1700-2300°C.             | <b>Evaporation rate</b>      | N/A ( <i>Butyl acetate = 1</i> ).  |
| <b>Boiling Point/Range</b>   | N/A.                     | <b>Partition Coefficient</b> | N/A ( <i>log P<sub>ow</sub></i> ). |
| <b>Vapor Pressure (20°C)</b> | N/A.                     | <b>pH</b>                    | N/A.                               |
| <b>Flash Point:</b>          | 305°C (581°F) acetylene. | <b>LEL</b>                   | 2.5% acetylene.                    |
| <b>Autoignition Temp.:</b>   | N/A.                     | <b>UEL</b>                   | 100% acetylene.                    |

N/A = Not available or applicable

**Section 10: Stability and Reactivity**

Avoid heat and ignition sources. Contact with water produces heat and flammable acetylene gas.

**Stability:** Stable under normal conditions of use.

**Incompatibility:** Reacts with water to produce flammable acetylene gas. Incompatible with oxidizers, moisture from any source, water, unalloyed copper, silver and mercury, acid and acid fumes.

**Shelf life:** Indefinite if stored dry and properly.

**Section 11: Toxicology Information**

**Acute Symptoms/Signs of exposure:** *Eyes:* Stinging pain, burns, watering of eyes, inflammation of eyelids and conjunctivitis.

*Skin:* Irritation, redness, burns. Metal reacts readily on skin causing burns. *Ingestion:* Nausea, vomiting, bloating and headache.

*Inhalation:* Rapid irregular breathing, headache, burns to mucous membranes.

**Chronic Effects:** Repeated/prolonged skin contact may cause dryness or rashes.

**Sensitization:** none expected

*Calcium Carbide:* LD50 [oral, rat]; N/A; LC50 [rat]; N/A; LD50 Dermal [rabbit]; N/A

*Material has not been found to be a carcinogen nor produce genetic, reproductive, or developmental effects.*

**Section 12: Ecological Information**

**Ecotoxicity (aquatic and terrestrial):** Ecological impact has not been determined

**Section 13: Disposal Considerations**

Check with all applicable local, regional, and national laws and regulations. Local regulations may be more stringent than regional or national regulations. Use a licensed chemical waste disposal firm for proper disposal.

**Section 14: Transport Information**

|                               |                  |                      |                  |
|-------------------------------|------------------|----------------------|------------------|
| <b>DOT Shipping Name:</b>     | Calcium Carbide. | <b>Canada TDG:</b>   | Calcium Carbide. |
| <b>DOT Hazard Class:</b>      | 4.3, pg II.      | <b>Hazard Class:</b> | 4.3, pg II.      |
| <b>Identification Number:</b> | UN1402.          | <b>UN Number:</b>    | UN1402.          |

**Section 15: Regulatory Information**

**EINECS:** Listed (231-132-9) .

**WHMIS Canada:** B6:D2B: Reactive Flammable: Toxic Material .

**TSCA:** All components are listed or are exempt.

**California Proposition 65:** Not listed.

*The product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.*

**Section 16: Other Information**

**Current Issue Date:** January 23, 2009

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