

CALCIUM CARBIDE

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1. Product Identification

Synonyms: Acetylenogen; calcium acetylide; calcium dicarbide

CAS No.: 75-20-7

Molecular Weight: 64.08

Chemical Formula: CaC₂

Product Codes: CHEM-064 and others

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Calcium Carbide	75-20-7	>90%	Yes

3. Hazards Identification

Emergency Overview

Danger! Corrosive. Contact with skin causes irritation and possible burns, especially if the skin is wet or moist. May cause severe eye and skin irritation with possible burns. Eye contact may result in permanent eye damage. Causes digestive and respiratory tract burns. Water-Reactive.

SAF-T-DATA^(tm) Ratings

Health Rating: 3 - Severe

Flammability Rating: 3 - Severe

Reactivity Rating: 2 - Moderate

Special Hazard: -W-

Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

Storage Color Code: Red (Flammable)

Potential Health Effects

Inhalation:

May cause severe irritation of the upper respiratory tract with pain, burns, and inflammation. Can produce delayed pulmonary edema.

Ingestion:

Causes gastrointestinal tract burns.

Skin Contact:

Contact with skin causes irritation and possible burns, especially if the skin is wet or moist. When in contact with moist skin, caustic lime is formed, which can lead to ulceration and scarring.

Eye Contact:

Causes severe eye burns. May cause blindness. May cause opacity and scarring.

Chronic Exposure:

Repeated inhalation may cause chronic bronchitis.

Aggravation of Pre-existing Conditions:

Not information found.

4. First Aid Measures

Inhalation:

Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion:

Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Skin Contact:

Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Destroy contaminated shoes.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

5. Fire Fighting Measures

Flash Point:

Not applicable.

Explosion Limits:

Not applicable.

Fire Extinguishing Media:

Do NOT use carbon dioxide. Do NOT use halogenated agents. Use approved class D extinguishing agents or smother with dry sand, clay, or sodium bicarbonate. DO NOT USE WATER! Use dry chemical.

Special Information:

Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products. Contact with moisture or water may generate sufficient heat to ignite nearby combustible materials. Contact with moisture to form flammable acetylene gas. Contact with acid or acid fumes evolves heat and flammable vapors.

6. Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Remove all sources of ignition. Use a spark-proof tool. Do not expose spill to water

7. Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Ground and bond containers when transferring material. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale.

Storage: Keep away from sources of ignition. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water. Keep containers tightly closed. Store in metal containers.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL):

None listed

-ACGIH Threshold Limit Value (TLV):

None listed

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Skin Protection:

Wear appropriate gloves to prevent skin exposure.

Eye Protection:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

9. Physical and Chemical Properties

Appearance:

Black-gray solid.

Odor:

garlic-like odor.

Solubility:

Reacts with water.

Specific Gravity:

2.22

pH:

Not available.

% Volatiles by volume @ 21°C (70°F):

Not available.

Boiling Point:

Not applicable.

Melting Point:

4172° F.

Vapor Density (Air=1):

Not applicable.

Vapor Pressure (mm Hg):

Not applicable.

Evaporation Rate (BuAc=1):

Not applicable.

10. Stability and Reactivity

Stability:

Stable under normal temperatures and pressures. Reacts vigorously with water to form highly flammable Acetylene Gas, which may ignite spontaneously. Lime may also be formed raising the pH of the solution and causing a white precipitate.

Hazardous Decomposition Products:

Carbon monoxide, carbon dioxide, calcium oxide.

Hazardous Polymerization:

Has not been reported.

Incompatibilities:

Incompatible with water, hydrogen chloride, lead fluoride, magnesium, selenium, silver nitrate, sulfur, silver nitrate, sodium peroxide, stannous chloride, potassium hydroxide and chlorine.

Conditions to Avoid:

Incompatible materials, contact with water, acids, exposure to moist air or water, oxidizers.

11. Toxicological Information

RTECS#:

CAS# 75-20-7 unlisted.

LD50/LC50:

Not available.

Carcinogenicity:

CAS# 75-20-7: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information found.

Teratogenicity: No information found.

Reproductive Effects: No information found.

Neurotoxicity: No information found.

Mutagenicity: No information found.

Other Studies: The toxicological properties have not been fully investigated.

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

14. Transport Information

US D.O.T.

Proper Shipping Name: CALCIUM CARBIDE

Hazard Class: 4.3

UN/NA: UN1402

Packing Group: II

Information reported for product/size:

Canada T.D.G.

Proper Shipping Name: CALCIUM CARBIDE (NON PLACARDABLE)

Hazard Class: 4.3

UN/NA: UN1402

Packing Group: II

Information reported for product/size:

15. Regulatory Information

US FEDERAL

TSCA

CAS# 75-20-7 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

CERCLA Hazardous Substances and corresponding RQs

CAS# 75-20-7: 10 lb final RQ; 4.54 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 75-20-7: acute, flammable, reactive.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

CAS# 75-20-7 is listed as a Hazardous Substance under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 75-20-7 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Massachusetts.

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

F

Risk Phrases:

R 15 Contact with water liberates highly flammable gases.

Safety Phrases:

S 8 Keep container dry.

S 43A In case of fire, use dry chemical (never use water).

WGK (Water Danger/Protection)

CAS# 75-20-7: 1

Canada - DSL/NDSL

CAS# 75-20-7 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B6, E.

Canadian Ingredient Disclosure List

CAS# 75-20-7 is not listed on the Canadian Ingredient Disclosure List.

Exposure Limits.

16. Other Information

NFPA Ratings: Health: 2 Flammability: 0 Reactivity: 0

Label Hazard Warning:

WARNING! CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. HARMFUL IF SWALLOWED OR INHALED.

Label Precautions:

Avoid contact with eyes, skin and clothing.

Avoid breathing dust.

Wash thoroughly after handling.

Keep container closed.

Use only with adequate ventilation.

Label First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes.

Remove contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. In all cases, get medical attention.

Product Use:

Laboratory Reagent and Consumer Hobby

Revision Information:

No Changes.

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