

SAFETY DATA SHEET (SDS)

Calcium Carbide (CaC₂)

Prepared for: ABC Chemical Co., Ltd.

Version: V.01

Date: Nov.9th., 2025

1. Identification

Substance name: Calcium carbide

Chemical formula: CaC₂

CAS number: 75-20-7

Recommended use: Industrial chemical – acetylene generation, metallurgy, chemical intermediate.

Supplier/Manufacturer: ABC Chemical Co., Ltd.

Address: [Insert address]

Telephone: [Insert phone number]

Emergency telephone: CHEMTREC +1-800-424-9300

2. Hazard(s) Identification

GHS Classification:

- Substances which, in contact with water, emit flammable gases – Category 1 (H260)
- Skin corrosion – Category 1B (H314)
- Eye damage – Category 1 (H318)

Signal Word: Danger

Hazard Statements:

- H260: In contact with water releases flammable gases which may ignite spontaneously.
- H314: Causes severe skin burns and eye damage.

Precautionary Statements:

- P223: Do not allow contact with water.
- P280: Wear protective gloves, protective clothing, eye protection, face protection.
- P370+P378: In case of fire: Use dry powder or sand for extinction – do not use water.

3. Composition / Information on Ingredients

Substance: Calcium carbide

CAS Number: 75-20-7

Purity: ≥99%

Impurities: May contain calcium oxide, phosphides, sulfides.

4. First-Aid Measures

Inhalation: Remove to fresh air. Provide oxygen if breathing is difficult. Seek medical attention.

Skin contact: Flush with plenty of water for at least 15 minutes. Seek medical attention for burns.

Eye contact: Rinse cautiously with water for several minutes. Seek immediate medical attention.

Ingestion: Do not induce vomiting. Rinse mouth. Seek medical advice immediately.

Notes to physician: Treat symptomatically; avoid water exposure to carbide.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Dry powder, dry sand. Do not use water or foam.

Specific Hazards: Reacts with water to produce acetylene, which may ignite.

Protective Equipment: Wear full protective equipment and SCBA.

6. Accidental Release Measures

Avoid contact with water. Evacuate area. Collect dry material using non-sparking tools. Prevent entry into sewers or waterways. Dispose in accordance with local regulations.

7. Handling and Storage

Handle in a dry, well-ventilated area. Avoid dust formation. Keep away from water.

Store in a cool, dry place away from acids, oxidizers, and incompatible metals.

8. Exposure Controls / Personal Protection

Engineering Controls: Provide adequate ventilation. Use explosion-proof equipment.

Personal Protective Equipment: Gloves, goggles, protective clothing, respirator if dust present.

9. Physical and Chemical Properties

Appearance: Grey or black solid lumps

Odor: Odorless (acetylene odor if exposed to moisture)

Melting Point: Decomposes on heating

Solubility: Reacts with water

10. Stability and Reactivity

Reactivity: Reacts vigorously with water to produce acetylene.

Stability: Stable under dry conditions.

Incompatible materials: Water, acids, oxidizers, metals such as copper and silver.

11. Toxicological Information

Causes severe burns to skin and eyes. Inhalation may cause respiratory irritation.

Exposure to acetylene may cause dizziness or asphyxiation in confined spaces.

12. Ecological Information

Toxic to aquatic life. Avoid release to environment.

Reacts with water forming calcium hydroxide and acetylene.

13. Disposal Considerations

Dispose of contents and container in accordance with local regulations.

Do not discharge into drains or natural waters.

14. Transport Information

UN Number: 1402

Proper Shipping Name: Calcium carbide

Class: 4.3 (Dangerous when wet)

Packing Group: I

15. Regulatory Information

Listed on TSCA and EINECS inventories. Comply with all national regulations.

16. Other Information

NFPA Ratings: Health 3, Flammability 3, Reactivity 0, Water Reactive (W).

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Date of Preparation: [Insert Date]