



XI'AN FUNCTION MATERIAL GROUP CO., LTD
Material Safety Data Sheet
Calcium Carbide

1. Product and Company Identification

Trade Name: Calcium Carbide
Chemical Formula: CaC₂
Recommended Use: Scientific research and development

Manufacturer/Supplier: XI'AN FUNCTION MATERIAL GROUP CO., LTD
Street: No. 69, Gazelle Valley, High-Tech Zone
City: XI'AN
State: Shannxi
Zip Code: 710077
Country: China
Tel #: +86-29-88993870/+86-13519132051

2. Hazards Identification

Signal Word: Danger



Hazard Statements: H261: In contact with water releases flammable gas
H315: Causes skin irritation
H318: Causes serious eye damage
H335: May cause respiratory irritation

Precautionary Statements: P231+P232: Handle under inert gas. Protect from moisture
P261: Avoid breathing dust/fume/vapor
P280: Wear protective gloves/protective clothing/eye protection/face protection
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P362: Take off contaminated clothing and wash before reuse
P403+P233: Store in a well-ventilated place. Keep container tightly closed
P405: Store locked up
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):
Health: 3
Flammability: 2
Physical: 2

3. Composition

Chemical Family: Ceramic
Additional Names: Calcium acetylide

Calcium Carbide (CaC₂):
Percentage: 0-100 wt%
CAS #: 75-20-7
EC #: 200-848-3

Calcium Oxide (CaO):
Percentage: <1 wt%
CAS #: 1305-78-8
EC #: 215-138-9

4. First Aid Procedures

General Treatment: Seek medical attention if symptoms persist. Immediately remove any clothing soiled by the product.
Special Treatment: None
Important Symptoms: None
Inhalation: Remove victim to fresh air. Supply oxygen if breathing is difficult. Seek immediate medical advice.
Ingestion: Never induce vomiting or give anything by mouth to an unconscious person. Seek immediate medical advice.
Skin: Immediately wash affected area with mild soap and water. Remove any contaminated clothing. Seek immediate medical advice.
Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.

5. Firefighting Measures

Flammability: Flammable
Extinguishing Media: Do not use water for metal fires – use CO₂, sand, or extinguishing powder.
Spec. Fire Fighting Procedure: Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

6. Accidental Release Measures

If Material Is Released/Spilled: Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust. Use neutralizing agent. Do not flush with water or aqueous cleansing agents.
Environmental Precautions: Isolate runoff to prevent environmental pollution.

7. Handling and Storage

Handling Conditions:	Handle under dry protective gas. Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Store under dry inert gas. Keep away from ignition sources. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	5 mg/m ³ as CaO, long-term value
Threshold Limit Value:	2 mg/m ³ as CaO, long-term value
Special Equipment:	None
Respiratory Protection:	Dust Respirator
Protective Gloves:	Rubber gloves
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	Grey-Brown
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Contact with water releases flammable gases.
Boiling Point:	N/A
Melting Point:	2300 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	2.22 g/cc (at 20°C)
Molecular weight:	64.10 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents, water/moisture, acids
Incompatible Conditions:	Water/moisture (releases flammable gases which may ignite spontaneously)
Hazardous Decomposition Products:	Metal oxide fume, Carbon monoxide, Carbon dioxide, Calcium oxide, Acetylene

11. Toxicological Information

Potential Health Effects:

Eyes:	Causes severe eye damage
Skin:	Causes severe skin burns
Ingestion:	Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of preformation of esophagus and stomach. The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.
Inhalation:	May cause irritation
Chronic:	N/A

Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A

Median Lethal Dose:	N/A
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Carcinogen:	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
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12. Ecological Information

Aquatic Toxicity:	N/A
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	N/A

13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations.

14. Transportation Data

Hazardous:	Hazardous for transportation
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Hazard Class:	4.3 Substance which, in contact with water, emit flammable gas.
Packing Group:	II
UN Number:	UN1402
Proper Shipping Name:	Calcium carbide

15. Regulatory Information

Sec 302 Extremely Hazardous:	N/A
Sec 304 Reportable Quantities:	N/A
Sec 313 Toxic Chemicals:	No

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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