

## Safety Data Sheet **CALCIUM CARBIDE**

SDS no. XE6JTN7T • Version 1.0 • Date of issue: 2026-01-05

### SECTION 1: Identification

#### GHS Product identifier

Product name **CALCIUM CARBIDE**

Product number **CT166**

#### Recommended use of the chemical and restrictions on use

Generation of acetylene gas for welding, chloroethylenes, vinyl acetate monomer, acetylene chemicals, reducing agent and laboratory reagent.

#### Supplier's details

Name **ChemSupply Australia Pty Ltd**  
Address **38-50 Bedford Street  
5013 Gillman South Australia  
Australia**

Telephone **08 8440 2000**  
email **www.chemsupply.com.au**

#### Emergency phone number

**CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)**

### SECTION 2: Hazard identification

#### General hazard statement

Dangerous goods of Class 4.3 (Dangerous When Wet) are incompatible in a placard load with any of the following: Class 1, Class 2.1, Class 5, Class 7, Class 8.

Classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

#### Classification of the substance or mixture

##### GHS classification in accordance with: UN GHS revision 7

- Serious eye damage/eye irritation, Cat. 1
- Skin corrosion/irritation, Cat. 2
- Specific target organ toxicity following single exposure, Cat. 3
- Substances and mixtures, which in contact with water, emit flammable gases, Cat. 1

#### GHS label elements, including precautionary statements

#### Pictograms

# Safety Data Sheet

## CALCIUM CARBIDE

SDS no. XE6JTN7T • Version 1.0 • Date of issue: 2026-01-05



### Signal word

### Danger

#### Hazard statement(s)

H260  
H315  
H318  
H335

In contact with water releases flammable gases which may ignite spontaneously  
Causes skin irritation  
Causes serious eye damage  
May cause respiratory irritation

#### Precautionary statement(s)

P223  
P231+P232  
P261  
P264  
P271  
P280  
P302+P335+P334  
  
P302+P352  
P304+P340  
P305+P351+P338  
  
P310  
P332+P313  
P362+P364  
P370+P378  
P402+P404  
P403+P233  
P405  
P501

Do not allow contact with water.  
Handle and store contents under inert gas/.... Protect from moisture.  
Avoid breathing dust/fume/gas/mist/vapors/spray.  
Wash hands thoroughly after handling.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/protective clothing/eye protection/face protection.  
IF ON SKIN: Brush off loose particles from skin. Immerse in cool water [or wrap in wet bandages].  
IF ON SKIN: Wash with plenty of water/soap  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Immediately call a POISON CENTER/doctor/physician  
If skin irritation occurs: Get medical advice/attention.  
Take off contaminated clothing and wash it before reuse.  
In case of fire: Use agents recommended in Section 5 of SDS for extinction  
Store in a dry place. Store in a closed container.  
Store in a well-ventilated place. Keep container tightly closed.  
Store locked up.  
Dispose of contents/container to an approved waste disposal facility

## SECTION 3: Composition/information on ingredients

### Mixtures

<b>Molecular weight</b>	64.1
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<b>Component</b>	<b>Identification</b>	<b>Weight %</b>
Calcium carbide	CAS no.: 75-20-7 EC no.: 200-848-3 Index no.: 006-004-00-9	<= 100 %

## SECTION 4: First-aid measures

### Description of necessary first-aid measures

General advice

First Aid Facilities: Maintain eyewash fountain in work area.

If inhaled

If inhaled, remove from contaminated area to fresh air immediately, avoid becoming a casualty. Make patient comfortable, keep warm and at rest until fully recovered. If breathing is difficult (or develops a bluish skin discoloration),

# Safety Data Sheet

## CALCIUM CARBIDE

SDS no. XE6JTN7T • Version 1.0 • Date of issue: 2026-01-05

supply oxygen by a qualified person. Apply artificial respiration with a respiratory medical device if not breathing. Do not use mouth to mouth resuscitation. Seek medical attention if effects persist.

In case of skin contact

If skin irritation or rash occurs: Get medical advice/attention.

In case of eye contact

Remove contact lenses. Do NOT flush with water. Carefully remove particles with cotton applicator. Seek immediate medical assistance.

If swallowed

Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.

### Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### Indication of immediate medical attention and special treatment needed, if necessary

For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

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## SECTION 5: Fire-fighting measures

### Suitable extinguishing media

Specific Methods: DO NOT USE WATER OR FOAM.

Small fire: Use dry chemical, soda ash, lime or sand. If safe to do so, move undamaged containers from fire area.

Large fire: Use DRY sand, dry chemical, soda ash or lime or withdraw and let fire burn. Cool containers with flooding quantities of water until well after fire is out. Avoid getting water inside containers.

### Specific hazards arising from the chemical

Hazards from Combustion Products: May liberate toxic fumes in fire such as calcium oxide.

Produces flammable substances (acetylene gas) on contact with water. May ignite on contact with water or moist air. Can react vigorously or explosively on contact with water. May be ignited by heat, sparks or flame. May re-ignite after fire is extinguished.

### Special protective actions for fire-fighters

Wear SCBA and chemical splash suit. Structural firefighter's uniform may provide limited protection.

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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Evacuate the area of all non-essential personnel. Remove ignition sources

Avoid substance contact. Avoid generation of dusts: do not inhale dusts.

Ensure supply of fresh air in enclosed rooms.

Wear protective clothing specified for normal operations (see Section 8)

### Methods and materials for containment and cleaning up

ELIMINATE all ignition sources (no smoking, flares, sparks or flames) within at least 25m. Do not touch or walk through spilled material. Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas. DO NOT GET WATER inside containers or in contact with substance.

Small spill

Cover with DRY earth, sand or other non-combustible material followed by plastic sheet to minimize spreading or contact with rain.

Large Spill

SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.

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## SECTION 7: Handling and storage

# Safety Data Sheet

## CALCIUM CARBIDE

SDS no. XE6JTN7T • Version 1.0 • Date of issue: 2026-01-05

### Precautions for safe handling

Avoid substance contact and generation and inhalation of dust.

### Conditions for safe storage, including any incompatibilities

Keep dry - reacts with water; may lead to drum rupture. Store away from sources of heat or ignition. Keep containers closed at all times. from flammable materials. Store away

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## SECTION 8: Exposure controls/personal protection

### Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

### Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

#### Skin protection

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

#### Body protection

Footwear: Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

Body Protection: Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

#### Respiratory protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/ mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/ NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/ NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

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## SECTION 9: Physical and chemical properties

### Basic physical and chemical properties

Physical state	Solid
Appearance	Grayish-black, irregular lumps or granules.
Color	No data available.
Odor	Garlic-like, foul odour.
Odor threshold	No data available.
Melting point/freezing point	1700 - 2300 °C (approx.)
Boiling point or initial boiling point and boiling range	No data available.
Flammability	Flammable on contact with water.

# Safety Data Sheet

## CALCIUM CARBIDE

SDS no. XE6JTN7T • Version 1.0 • Date of issue: 2026-01-05

Lower and upper explosion limit/flammability limit	Flammable Limits - Lower: Acetylene gas: 2.5 % Flammable Limits - Upper: Acetylene gas: 82 %
Flash point	No data available.
Explosive properties	Produces highly explosive acetylene gas on contact with water or moisture.
Auto-ignition temperature	390°C
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	12.48 at 20g/l.
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Decomposes in water with formation of acetylene and calcium hydroxide and evolution of heat.
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	No data available.
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: 2.20 @ 20 °C
Relative vapor density	No data available.
Particle characteristics	No data available.

### Supplemental information regarding physical hazard classes

No data available.

### Further safety characteristics (supplemental)

No data available.

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## SECTION 10: Stability and reactivity

### Reactivity

Stable under normal conditions of storage and handling.

### Chemical stability

Stable if kept dry.

### Possibility of hazardous reactions

In contact with water, rapidly evolves acetylene, ignited by the heat of the reaction. Acetylene forms highly explosive compounds with salts of some heavy metals. Reacts vigorously with acids.

### Conditions to avoid

Exposure to moisture, heat, flames and sparks.

### Incompatible materials

Water, acids, oxidising agents, unalloyed copper, silver and mercury.

### Hazardous decomposition products

# Safety Data Sheet

## CALCIUM CARBIDE

SDS no. XE6JTN7T • Version 1.0 • Date of issue: 2026-01-05

Highly flammable and explosive acetylene gas and corrosive calcium hydroxide are formed on contact with water. Hydrated lime, acetylene and heat are generated during the reaction with water.

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### SECTION 11: Toxicological information

#### Information on toxicological effects

##### Acute toxicity

Ingestion: May cause internal irritation.

Inhalation: Causes irritation to the respiratory system.

##### Skin corrosion/irritation

Causes irritation to the skin.

##### Serious eye damage/irritation

May cause irritation, burns and serious damage to the eye.

Serious eye damage/irritation: H318 Causes serious eye damage.

##### Respiratory or skin sensitization

Not classified based on available information.

##### Germ cell mutagenicity

Not classified based on available information.

##### Carcinogenicity

Not classified based on available information.

##### Reproductive toxicity

Not classified based on available information.

##### Specific target organ toxicity (STOT) - single exposure

Not classified based on available information.

##### Specific target organ toxicity (STOT) - repeated exposure

Not classified based on available information.

##### Aspiration hazard

Not classified based on available information.

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### SECTION 12: Ecological information

#### Toxicity

Calcium carbide reacts with water to form calcium hydroxide.

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### SECTION 13: Disposal considerations

#### Disposal methods

##### Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

##### Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

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### SECTION 14: Transport information

# Safety Data Sheet

## CALCIUM CARBIDE

SDS no. XE6JTN7T • Version 1.0 • Date of issue: 2026-01-05

### ADG (Road and Rail)

UN Number: 1402  
Class: 4.3  
Packing Group: II  
Proper Shipping Name: CALCIUM CARBIDE

### Hazchem emergency action code (EAC)

4YE

### IMDG

UN Number: 1402  
Class: 4.3  
Packing Group: II  
EMS Number:  
Proper Shipping Name: CALCIUM CARBIDE

### IATA

UN Number: 1402  
Class: 4.3  
Packing Group: II  
Proper Shipping Name: CALCIUM CARBIDE

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## SECTION 15: Regulatory information

### Safety, health and environmental regulations specific for the product in question

#### Australia SUSMP

Poison Schedule: NS

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## SECTION 16: Other information

### Further information/disclaimer

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

### Preparation information

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'

Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), [hcis.safeworkaustralia.gov.au](http://hcis.safeworkaustralia.gov.au)

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)