



Air Liquide New Zealand Limited
19 Maurice Road
Penrose
Auckland 1061

Phone: (09) 622 3880
Fax: (09) 622 3881
Emergency: 0800 156 516

MATERIAL SAFETY DATA SHEET

Product Name:

CALCIUM CARBIDE

Issued: May 2014

Revision: 4

Page: 1 of 6

IDENTIFICATION

Chemical Name: Calcium Carbide
Synonyms: Carbide
UN Number: 1402
Poisons Schedule Number: None allocated
EPG (Emergency Procedure Guide): None allocated
G.T. EPG. (Group Text. Emergency Procedure Guide): None allocated

Use: Calcium carbide is used in a controlled reaction with water to generate acetylene gas for heating, lighting.

HAZARDS IDENTIFICATION

Dangerous Goods Class and Subsidiary Risk: 4.3
HSNO Classification: 4.3A, 6.3A, 8.3A

Hazard Statement: In contact with water releases flammable gases which may ignite spontaneously.
Causes skin irritation.
Causes serious eye damage.

Precautionary Statements: Read label before use.
Read Safety Data Sheet before use.
Handle under inert gas.
Protect from moisture.
Wear protective gloves, clothing, and eye and face protection.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.

COMPOSITION

Ingredients	CAS Number	Proportion
Chemical Entity Calcium Carbide	75-20-7	100%

FIRST AID MEASURES

Health Effects

Acute

Swallowed: Simultaneously, very small amounts of poisonous phosphine and hydrogen sulphide gas are released. Symptoms of acute poisoning are: indisposition, vomiting, feeling of being lost, burning sensation in the mucous membranes of nose, and marked pain in eyes, skin and throat, breathing difficulties.

Eye: Dust may damage the cornea and can in serious cases cause blindness.

Skin: Dust may irritate moist skin and can cause skin ulceration and eczema.

Inhaled: Dust may irritate the airways. By contact with water (humidity), acetylene gas with anesthetic effect is liberated.

Chronic

Long term exposure to Calcium Carbide has no known health effect.

First AidInhalation:

Get Medical Help Promptly. Acute poisoning due to handling of CALCIUM CARBIDE is unlikely if usual safety precautions are taken. Remove victim to clean safe area. Give oxygen if required. Keep warm and quiet. Treat as a stretcher case.

Skin Contact:

Get Medical Help Promptly. If skin contact has been made wash off with abundant clean water and soap. Remove contaminated clothing

Eye Contact:

If eye contact has been made immediately hold open eyes and flush with clean water for 20 minutes. Immediately transport to hospital or eye specialist.

Advice to Doctor

Advise doctor that the victim has been exposed to Calcium Carbide. Treat as for damage caused by sodium hydroxide solution.

General:

Ensure medical personnel are aware of identity and nature of product involved, and take precautions to protect themselves. Contact National Poisons Centre for further advice.

FIRE FIGHTING MEASURES**Flammability:**

In contact with water releases flammable gases which may ignite spontaneously.

Fire/Explosion Hazard:

MAGOR – RISK OF ACETYLENE GAS. DO NOT APPLY WATER OR FOAM.

When calcium carbide comes into contact with water, acetylene and heat are evolved, spontaneous ignition may follow. Heat and flammable vapours are also evolved in contact with acid or acid fumes. Acetylene is dangerous. When ignited it burns with intensely hot flame, can react vigorously with oxidising materials. At high pressures and even moderate temperatures acetylene has been known to decompose explosively. Acetylene forms explosive compounds with copper and silver.

Extinguishing Media:

Dry agent. Water must not be allowed into contact with the substance at risk

Hazchem Code:

4YE

Recommended Protective Clothing:

Breathing apparatus need only be worn if the substance is involved in a fire. Full chemical protection suit should be worn.

ACCIDENTAL RELEASE MEASURES**Personal Protection:**

Wear full length clothing and safety glasses whenever near product. When handling product, wear safety glasses, protective gloves and dust mask.

Spills and Disposal:

Dry spillage: Sweep up and recover in closed but not air tight containers. Be aware that acetylene gas will be formed as a result of contact with atmospheric moisture. Avoid all sources of ignition and use protective equipment.

In case of large spillage in contact with moisture or water, keep upwind, shut off ignition sources. Call fire services.

Note: Do not apply water. Use only dry agent, unless it is decided to destroy the carbide to render it harmless under carefully controlled conditions.

Reference Guide:

Standard SNZ HB 76:2008 Dangerous Goods – Initial Emergency Response Guide.

HANDLING AND STORAGE**Handling****Flammability:**

In contact with water releases flammable gases which may ignite spontaneously

Approved Handlers:

Approved handlers are required for any quantity stored on site.

Storage**Separation:**

Store in a well ventilated, cool dry area. Locate storage area a safe distance from heat, flame and spark generating areas, equipment and appliances. Building should be of fire resistant construction, waterproof and on high ground. Building should be electrically grounded. Do not store together with acid or chemicals with acidic properties. Special attention should be given to pocketing of gas under roof. Do not store product near steam, boilers etc. When loading, unloading and transporting, handle with care.

Spills and Disposal:

Dry spillage: Sweep up and recover in closed but not air tight containers. Be aware that acetylene gas will be formed as a result of contact with atmospheric moisture. Avoid all sources of ignition and use protective equipment.

In case of large spillage in contact with moisture or water, keep upwind, shut off ignition sources. Call fire services.

Note: Do not apply water. Use only dry agent, unless it is decided to destroy the carbide to render it harmless under carefully controlled conditions.

EXPOSURE CONTROLS / PERSONAL PROTECTION**Exposure Standards:**

Dangerous When Wet

Engineering Controls:

Calcium carbide in the presence of water will release acetylene gas. Acetylene forms explosive compounds with copper and silver.

Personal Protection:

Wear full length clothing and safety glasses whenever near product. When handling product, wear safety glasses, protective gloves and dust mask.

PHYSICAL AND CHEMICAL PROPERTIES**Physical Properties**

Appearance:	Rhombic-grey crystals, density 2.2 g/cm ³ . Packed in drums 110 kg.
Solubility in Water (at 0°C):	Reacts with water. Converted directly to acetylene gas and calcium hydroxide
Boiling Point:	Not applicable
Vapour Pressure:	Not applicable
Flashpoint:	Reacts with water. Converted directly to acetylene gas and calcium hydroxide
Flammability Limits:	Reacts with water. Converted directly to acetylene gas and calcium hydroxide

Other Properties

Not applicable

STABILITY AND REACTIVITY**Flammability:**

In contact with water releases flammable gases which may ignite spontaneously

Materials Compatibility:

Not applicable

TOXICOLOGY INFORMATION

Irritating to skin. Risk of serious damage to eyes.

ECOLOGICAL INFORMATION

No known ecological damage caused by this product.

DISPOSAL CONSIDERATIONS

DO NOT GET WATER inside containers or in contact with substance. Use only dry agent, unless it is decided to destroy the carbide to render it harmless under carefully controlled conditions. Seek expert advice on handling and disposal.

TRANSPORT INFORMATION

UN Number:	1402
Proper Shipping Name:	CALCIUM CARBIDE
Dangerous Goods Class and Subsidiary Risk:	4.3
Packing Group:	III
Hazchem Code:	4YE

REGULATORY INFORMATION**ERMA Register Approval No:** HSR001053**HSNO Controls:** Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001.
Hazardous Substances (Classes 6, 8, and 9 Controls) Regulations 2001.
Hazardous Substances (Packaging) Regulations 2001.
Hazardous Substances (Disposal) Regulations 2001.
Hazardous Substances (Personnel Qualifications) Regulations 2001.
Hazardous Substances (Emergency Management) Regulations 2001.
Hazardous Substances (Tracking) Regulations 2001.
Hazardous Substances (Identification) Regulations 2001.

Schedule 12 of the Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004

Approved Handlers:

Approved handlers are required for any quantity stored on site.

OTHER INFORMATION

- References:
- . L'Air Liquide Gas Encyclopaedia - Elsevier Scientific Publishing Co. Amsterdam
 - . Cheminfo Database
 - . New Zealand Code for the Transport of Dangerous Goods by Road and Rail
 - . NHMRC Threshold Limit Values - Commonwealth Dept Health
 - . SAA Safe Storage and Handling Information Cards
 - . SAA Emergency Procedure Cards
 - . Matheson Gas Data Book, 6th Edition, Matheson 1980
 - . Canadian Liquid Air Montreal, Canada - Gas Products Safety Data Sheets
 - . AS 1894 Code of Practice for Safe Handling of Cryogenic fluids
 - . NZCIC Code of Practice – Preparation of Safety Data Sheets

END MSDS

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

This MSDS has been prepared in accordance with NZCIC Code of Practice – Preparation of Safety Data Sheets

Air Liquide regional offices contact details on following page

Regional Offices

Auckland

PO Box 12846
19 Maurice Road
Penrose
Phone: 09 622 3888
Fax: 09 622 3882

Hamilton

PO Box 10 394
2 Tawn Place, Pukete
Phone: 07 849 2969
Fax: 07 348 9063

Mt Maunganui

89 Poturi Street, Tauriko
Tauranga 3110
Phone: 07 574 8475
Fax: 07 574 8476

Palmerston North

PO Box 10 010
5 Connolly Place
Palmerston North
Phone: 06 355 5216
Fax: 06 354 7104

Christchurch

PO Box 16453
7 Canterbury St
Hornby
Phone: 03 344 6033
Fax: 03 344 6031

**Emergency 24hr Phone
Number 0800 156 516**