

1 . IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

Product Name: CARBON DIOXIDE

Recommended Use of the Chemical and Restriction on Use: Technical gas – industrial use

Details of Manufacturer or Importer:

Bromic Group
1 Suttor Street
Silverwater NSW 2128

Phone Number: 02 9748 3900

Emergency telephone number: 1300 276 642

2 . HAZARDS IDENTIFICATION

Hazardous Nature:



gas cylinder

Press. Gas H280 Contains gas under pressure; may explode if heated.

Label Elements

Signal Word Warning

Hazard Statements

H280 Contains gas under pressure; may explode if heated.

Precautionary Statements

P410+P403 Protect from sunlight. Store in a well-ventilated place.

3 . COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical Characterisation: Substances

CAS No. Description

Substance

Hazardous Components:

124-38-9	carbon dioxide	Press. Gas, H280	>99.99%
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4 . FIRST AID MEASURES

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention if breathing problems develop.

Skin Contact:

Contact with liquid may cause cold burns/frostbite. In case of frostbite wash with lukewarm water for at least 15 minutes. Apply a sterile dressing. Seek medical attention if symptoms persist.

Eye Contact:

In case of eye contact, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention.

Ingestion: Ingestion is not considered a potential route of exposure.

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Information for Doctor**Symptoms Caused by Exposure:**

Low concentrations of CO₂ cause increased respiration and headache.

High concentrations of CO₂ cause rapid respiratory failure. Symptoms are headache, nausea, vomiting and loss of consciousness. Victims may not be aware of.

5 . FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Use fire extinguishing methods suitable to surrounding conditions.

Specific Hazards Arising from the Chemical:

Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode. Use water spray to cool fire exposed containers.

May accumulate in confined spaces, particularly at or below ground level.

Special Protective Equipment and Precautions for Fire Fighters:

Wear Safe Work Australia approved self-contained breathing apparatus and full protective clothing.

6 . ACCIDENTAL RELEASE MEASURES**Personal Precautions, Protective Equipment and Emergency Procedures:**

Wear Safe Work Australia approved self-contained breathing apparatus and full protective clothing. Evacuate all non-essential personnel from affected area. Do not breathe vapours. Ensure adequate ventilation.

Environmental Precautions:

In the event of a major spill, prevent spillage from entering drains or water courses.

Methods and Materials for Containment and Cleaning Up:

Stop leak if safe to do so. Ensure adequate ventilation.

7 . HANDLING AND STORAGE**Precautions for Safe Handling:**

Use of safe work practices are recommended to avoid inhalation of vapours. Use only outdoors or in a well-ventilated area.

Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Only experienced and properly instructed persons should handle gases under pressure.

Open slowly the valve in order to avoid pressure shot. Do not allow backfeed into the container. Avoid the backfeed of water. Protect cylinders from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distances, use a cart. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. Close container valve after each use and when empty, even if still connected to equipment. Do not attempt to transfer gases from one cylinder/container to another. Do not use direct flame or electrical heating devices to raise the pressure of a container.

Food, beverages and tobacco products should not be stored or consumed where this material is in use. Do not smoke while handling product.

Conditions for Safe Storage:

Store in a cool, dry and well ventilated area. Do not expose to the sun or temperatures exceeding 50 °C. Keep containers in upright position. Protect from heat, sparks, open flames and other sources of ignition. Keep away from combustible materials. Containers' valve guards or caps should be in place. Check periodically for damage or leaks.

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8 . EXPOSURE CONTROLS AND PERSONAL PROTECTION
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Exposure Standards:

124-38-9 carbon dioxide

NES	STEL: 54000 mg/m ³ , 30000 ppm TWA: 9000 mg/m ³ , 5000 ppm
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Engineering Contols:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapour below occupational exposure standards.

Can form sub-oxygen atmospheres (O₂ less than 18%)

In closed spaces, please check the percentage of oxygen in the air.

Under oxygenated areas, use a breathing apparatus.

Assess the opportunity to check the concentration in air

Personal Protective Equipment (PPE):

Respiratory Protection:

Wear Safe Work Australia approved self-contained breathing apparatus in case of insufficient ventilation or leaks. See Australian Standards AS/NZS 1715 and 1716 for more information.

Skin Protection:

Safety leather gloves, protective clothing and safety boots. See Australian Standards AS/NZS 2161, 2210.1 and 2210.2 for more information.

Eye and Face Protection:

Safety glasses with top and side shields or goggles. See Australian Standards AS/NZS 1336 and 1337 for more information.

9 . PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Form: Gaseous

Colour: Colourless

Odour: Odourless

Odour Threshold: Odour threshold is subjective and inadequate to warn for overexposure.

pH-Value: Not applicable

Melting point/Melting range: -56.6 °C

Initial Boiling Point/Boiling Range: -78.5 °C

Flash Point: Not applicable

Flammability: Not applicable

Auto-ignition Temperature:

Decomposition Temperature: No information available

Explosion Limits:

Lower: Not applicable

Upper: Not applicable

Vapour Pressure at 20 °C: 57.3 bar

Relative Density at 20 °C: 1.52 g/cm³ (gas)

Vapour Density: Not applicable

Evaporation Rate: Not applicable.

Solubility in Water at 20 °C: 2000 mg/L (completely soluble)

Partition Coefficient (n-octanol/water): Not determined.

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10 . STABILITY AND REACTIVITY**Possibility of Hazardous Reactions:**

CO₂ dissolved in water, forms carbonic acid (H₂CO₃) which is corrosive for the carbon steel and some non ferrous materials.

Chemical Stability: Stable at ambient temperature and under normal conditions of use.

Conditions to Avoid: Avoid the storage of the product in confined areas.

Incompatible Materials: None

Hazardous Decomposition Products: Oxygen and carbon monoxide.

11 . TOXICOLOGICAL INFORMATION**Toxicity:****Acute Health Effects****Inhalation:**

You can have health problems for more than 8 hours breathing air containing more than 5000 ppm (0.5%) of CO₂.

If the concentration increases up to 15000 ppm (1.5%) have problems after just 10 minutes.

At 2% of concentration, it is already experiencing a headache and loss of concentration.

At higher levels, around 10%, the CO₂ can cause asphyxiation and paralysis of the respiratory centers, although the amount of oxygen in the air is still above 19% and then just for breathing. Breathe an even richer in carbon dioxide can cause immediate loss of consciousness and death. Some symptoms of asphyxiation may include rapid breathing, fatigue, nausea, vomiting and cyanosis.

Skin: No irritating effect.

Eye: No irritating effect.

Ingestion: Ingestion is not considered a potential route of exposure.

Skin Corrosion / Irritation: Based on classification principles, the classification criteria are not met.

Serious Eye Damage / Irritation: Based on classification principles, the classification criteria are not met.

Respiratory or Skin Sensitisation: No sensitising effects known.

Germ Cell Mutagenicity: Based on classification principles, the classification criteria are not met.

Carcinogenicity: This product does NOT contain any IARC listed chemicals.

Reproductive Toxicity: Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT) - Single Exposure:

Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT) - Repeated Exposure:

Based on classification principles, the classification criteria are not met.

Aspiration Hazard: Based on classification principles, the classification criteria are not met.

Chronic Health Effects: No information available

Existing Conditions Aggravated by Exposure: No information available

12 . ECOLOGICAL INFORMATION

Ecotoxicity: No information available

Aquatic toxicity: No information available

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Persistence and Degradability: No information available**Bioaccumulative Potential:** No information available**Mobility in Soil:** No information available**13 . DISPOSAL CONSIDERATIONS****Disposal Methods and Containers:**

Discharge to atmosphere in large quantities should be avoided.
Do not discharge into any place where its accumulation could be dangerous.
May be vented to atmosphere in a well ventilated place.
Dispose according to applicable local and state government regulations.

Special Precautions for Landfill or Incineration:

Please consult your state Land Waste Management Authority for more information.

14 . TRANSPORT INFORMATION

UN Number	1013
Proper Shipping Name	CARBON DIOXIDE
Dangerous Goods Class	2.2
Packing Group:	Not applicable
Marine pollutant:	No
EMS Number:	F-C,S-V
Hazchem Code:	2T
Special Provisions:	Not applicable
Limited Quantities:	120 mL
Packagings & IBCs - Packing Instruction:	P200
Packagings & IBCs - Special Packing Provisions:	Not applicable
Portable Tanks & Bulk Containers - Instructions:	Not applicable
Portable Tanks & Bulk Containers - Special Provisions:	Not applicable

15 . REGULATORY INFORMATION**Australian Inventory of Chemical Substances:**

124-38-9 | carbon dioxide

16 . OTHER INFORMATION**Creation Date:** 06.06.2014**Prepared by:** MSDS.COM.AU Pty Ltdwww.msds.com.au**Abbreviations and acronyms:**

GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
IARC: International Agency for Research on Cancer
STEL: Short Term Exposure Limit
TWA: Time Weighted Average

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NES: National Exposure Standard (Safe Work Australia - Workplace Exposure Standards For Airborne Contaminants) (Contd. of page 5)

Disclaimer

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