

Safety Data Sheet



Hazardous, Dangerous Goods

1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product name: Carbon Dioxide (CO₂)

Synonyms

CO₂: D SIZE CYLINDER
CO₂: E SIZE CYLINDER
CO₂: F SIZE CYLINDER
CARBON DIOXIDE (COMPRESSED)

Product Code

Recommended use: Carbonating, Calibrating, Fire fighting, Welding applications

Supplier: Hilditch Pty Ltd
ABN: 47 005 669 161
Street Address: Level 2 / 24-26 Cubitt Street
Cremorne VIC 3121
Australia
Telephone: (03) 9522 6300
Facsimile: (03) 9804 7711
Email: admin@hilditch.com.au

Emergency Telephone number: 1300 131 001

2. HAZARDS IDENTIFICATION

This material is hazardous according to the criteria of Safe Work Australia GHS 7.



Signal Word

Warning

Hazard Classification

Gases Under Pressure - Liquefied Gas

Hazard Statement

H280 Contains gas under pressure; may explode if heated.

Prevention Precautionary Statements

P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.

Response Precautionary Statement

P101 If medical advice is needed, have product container or label at hand.

Storage Precautionary Statement

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

Disposal Precautionary Statement

Not allocated

Poison Schedule: Not Applicable

DANGEROUS GOOD CLASSIFICATION

Product Name: Carbon Dioxide (CO₂)

Reference No: HIL0067

Issued: 2022-10-26

Version: 2.0

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Classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

Dangerous Goods Class: 2.2

3. COMPOSITION INFORMATION

CHEMICAL ENTITY	CAS NO	PROPORTION
Carbon dioxide	124-38-9	99.9 % (w/w)
Ingredients determined to be Non-Hazardous		Balance
		100%

4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

Inhalation: Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

Skin Contact: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. If swelling, redness, blistering or irritation occurs seek medical assistance. For freeze burns, immediately flood burnt area with plenty of warm water (40 - 44 °C) and cover with a clean, dry dressing. Seek immediate medical assistance.

Eye contact: If in eyes wash out immediately with water. In all cases of eye contamination it is a sensible precaution to seek medical advice. For freeze burns, Immediately irrigate with copious quantities of warm (40 - 44 °C) water for at least 15 minutes. Eyelids to be held open. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport to hospital or medical centre.

Ingestion: Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water to drink. Never give anything by the mouth to an unconscious patient. If vomiting occurs give further water. Seek medical advice.

PPE for First Aiders: Wear safety shoes, overalls, gloves, safety glasses. Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Notes to physician: Treat symptomatically.

5. FIRE FIGHTING MEASURES

Hazchem Code: 2T

Suitable extinguishing media: If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

Specific hazards: Contains gas under pressure; may explode if heated.

Fire fighting further advice: Heating can cause expansion or decomposition leading to violent rupture of containers. If safe to do so, remove containers from path of fire. Keep containers cool with water spray. On

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burning or decomposing may emit toxic fumes. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion or decomposition.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILLS

Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of gas. If safe to do so, isolate the leak. Increase ventilation to assist with dispersion.

LARGE SPILLS

Clear area of all unprotected personnel. If safe to do so, isolate the leak. Increase ventilation to assist with dispersion. If contamination of crops, sewers or waterways has occurred advise local emergency services.

Dangerous Goods - Initial Emergency Response Guide No: 9

7. HANDLING AND STORAGE

Handling: Avoid eye contact and repeated or prolonged skin contact. Avoid inhalation of vapour, mist or aerosols.

Storage: Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat and/or ignition. Do not expose to temperatures exceeding 50 °C/122 °F. Keep containers closed when not in use - check regularly for leaks.

This material is classified as a Division 2.2 Non Flammable, Non Toxic Gas as per the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and/or the "New Zealand NZS5433: Transport of Dangerous Goods on Land" and must be stored in accordance with the relevant regulations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National occupational exposure limits:

	TWA		STEL		NOTICES
	ppm	mg/m3	ppm	mg/m3	
Carbon dioxide	5000	9000	30000	54000	-
Carbon dioxide in coal mines	12500	22500	30000	54000	-

As published by Safe Work Australia.

TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.

STEL (Short Term Exposure Limit) - the average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during product manufacture.

Biological Limit Values: As per the "National Model Regulations for the Control of Workplace Hazardous

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Substances (Safe Work Australia)" the ingredients in this material do not have a Biological Limit Allocated.

Engineering Measures: Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Use only in well ventilated areas. Use with local exhaust ventilation or while wearing appropriate respirator. Vapour heavier than air - prevent concentration in hollows or sumps. Do NOT enter confined spaces where vapour may have collected.

Personal Protection Equipment: SAFETY SHOES, OVERALLS, GLOVES, SAFETY GLASSES.

Personal protective equipment (PPE) must be suitable for the nature of the work and any hazard associated with the work as identified by the risk assessment conducted.

Wear safety shoes, overalls, gloves, safety glasses. Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Hygiene measures: Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and repeated or prolonged skin contact. Avoid inhalation of vapour, mist or aerosols. Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form: Gas
Colour: Colourless
Odour: Odourless

Solubility:	Slightly soluble in water
Specific Gravity:	1.02
Relative Vapour Density (air=1):	1.53
Vapour Pressure:	5700 hPa @ 20°C
Flash Point (°C):	N App
Flammability Limits (%):	N App
Autoignition Temperature (°C):	N App
Melting Point/Range (°C):	-78.5
Boiling Point/Range (°C):	-56.6
pH:	N App
Viscosity:	N App
Total VOC (g/Litre):	N Av

(Typical values only - consult specification sheet)

N Av = Not available, N App = Not applicable

10. STABILITY AND REACTIVITY

Chemical stability: This material is thermally stable when stored and used as directed.

Conditions to avoid: Elevated temperatures and sources of ignition.

Incompatible materials: Oxidising agents.

Hazardous decomposition products: Oxides of carbon and nitrogen, smoke and other toxic fumes.

Hazardous reactions: No known hazardous reactions.

11. TOXICOLOGICAL INFORMATION

Product Name: Carbon Dioxide (CO₂)

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No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Acute Effects

Inhalation: Material may be an irritant to mucous membranes and respiratory tract.

Skin contact: Contact with skin may result in irritation. Liquid splashes or spray may cause freeze burns.

Ingestion: Swallowing can result in nausea, vomiting and irritation of the gastrointestinal tract.

Eye contact: May be an eye irritant. Liquid splashes or spray may cause freeze burns to the eye.

Acute toxicity

Inhalation: This material has been classified as not hazardous for acute inhalation exposure. Acute toxicity estimate (based on ingredients): $LC_{50} > 20,000$ ppm for gases

Skin contact: This material has been classified as not hazardous for acute dermal exposure. Acute toxicity estimate (based on ingredients): $LD_{50} > 2,000$ mg/Kg bw

Ingestion: This material has been classified as not hazardous for acute ingestion exposure. Acute toxicity estimate (based on ingredients): $LD_{50} > 2,000$ mg/Kg bw

Corrosion/Irritancy: Eye: this material has been classified as not corrosive or irritating to eyes. Skin: this material has been classified as not corrosive or irritating to skin.

Sensitisation: Inhalation: this material has been classified as not a respiratory sensitiser. Skin: this material has been classified as not a skin sensitiser.

Aspiration hazard: This material has been classified as not an aspiration hazard.

Specific target organ toxicity (single exposure): This material has been classified as not a specific hazard to target organs by a single exposure.

Chronic Toxicity

Mutagenicity: This material has been classified as not a mutagen.

Carcinogenicity: This material has been classified as not a carcinogen.

Reproductive toxicity (including via lactation): This material has been classified as not a reproductive toxicant.

Specific target organ toxicity (repeat exposure): This material has been classified as not a specific hazard to target organs by repeat exposure.

12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

Acute aquatic hazard: This material has been classified as not hazardous for acute aquatic exposure. Acute toxicity estimate (based on ingredients): > 100 mg/L

Long-term aquatic hazard: This material has been classified as not hazardous for chronic aquatic exposure. Non-rapidly or rapidly degradable substance for which there are adequate chronic toxicity data available OR in the absence of chronic toxicity data, Acute toxicity estimate (based on ingredients): > 100 mg/L, where the substance is not rapidly degradable and/or $BCF < 500$ and/or $\log K_{ow} < 4$.

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Ecotoxicity: No information available.

Persistence and degradability: No information available.

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT

Classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".



UN No: 1013
Dangerous Goods Class: 2.2
Packing Group: None
Hazchem Code: 2T
Emergency Response Guide No: 9
Limited Quantities 120 ml

Proper Shipping Name: CARBON DIOXIDE

Segregation Dangerous Goods: Not to be loaded with explosives (Class 1), spontaneously combustible substances (Class 4.2) or organic peroxides (Class 5.2). Exemptions may apply.

MARINE TRANSPORT

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.



UN No: 1013
Dangerous Goods Class: 2.2
Packing Group: None

Proper Shipping Name: CARBON DIOXIDE

AIR TRANSPORT

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

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UN No: 1013
Dangerous Goods Class: 2.2
Packing Group: None

Proper Shipping Name: CARBON DIOXIDE

15. REGULATORY INFORMATION

This material is not subject to the following international agreements:

Montreal Protocol (Ozone depleting substances)
The Stockholm Convention (Persistent Organic Pollutants)
The Rotterdam Convention (Prior Informed Consent)
Basel Convention (Hazardous Waste)
International Convention for the Prevention of Pollution from Ships (MARPOL)

This material/constituent(s) is covered by the following requirements:

The Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) established under the Therapeutic Goods Act (Commonwealth): Not Applicable.

AICIS Status: All components of this product are listed on or exempt from the Australian Inventory of Industrial Chemicals (AIIC).

16. OTHER INFORMATION

Reasons for issue: 5 Yearly Revision
Product name change

This information was prepared in good faith from the best information available at the time of issue. It is based on the present level of research and to this extent we believe it is accurate. However, no guarantee of accuracy is made or implied and since conditions of use are beyond our control, all information relevant to usage is offered without warranty. The manufacturer will not be held responsible for any unauthorised use of this information or for any modified or altered versions.

If you are an employer it is your duty to tell your employees, and any others that may be affected, of any hazards described in this sheet and of any precautions that should be taken.

Safety Data Sheets are updated frequently. Please ensure you have a current copy.