

Carbon Dioxide

Material Safety Data Sheet

(Sheet No. 13)

SUPPLIER

Supplier Name: Supagas Pty Ltd
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HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC CRITERIA
CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

COMPOSITION / INFORMATION ON INGREDIENTS

Product Name: Carbon Dioxide, Refrigerated Liquid.
Chemical Name: Carbon Dioxide, compressed
Manufacturer's Code:
UN Number: 2187 Carbon Dioxide, Refrigerated Liquid
DG Class: 2.2 Non-flammable gas, non-toxic gas
Packaging Group: Not applicable
Subsidiary Risk(s): None
Hazchem Code: 2RE
EPG No: 2C2
Poisons Schedule: None assigned
Uses: As a source of low temperatures for freezing.

PHYSICAL DESCRIPTION & PROPERTIES:

Appearance: Colourless, Odourless liquid and gas.
Boiling Point: Not applicable
Melting Point: Not applicable
Vapour Pressure: 6,300kPa @ 25°C
Evaporation Rate: Immediate
Odour: Odourless
Vapour Density: 1.53 (Air=1)
Weight per ml: 1.02g
Flash Point: None
Flammability Limits: None
Auto-Ignition Temperature: None

OTHER PROPERTIES:

Extremely cold, colourless liquid. Forms a "dry ice": frost on evaporation at normal pressures, which sublimates to gaseous carbon dioxide. May react violently with dusts of some metals.

INGREDIENTS:

Carbon Dioxide 124-389-9 100%

HEALTH HAZARD INFORMATION

HEALTH EFFECTS

Acute:	Swallowed:	Extremely cold liquid or solid. Will cause cold burns to lips, mouth and throat.
	Skin:	May cause cold burns or frostbite.
	Eyes:	Will cause cold burns to the eyes, with risk of serious, permanent injury or blindness.
	Inhaled:	Low concentrations of carbon dioxide in air may cause headache and increased respiration at 3-5%. Levels of 8-15% can cause headache, nausea, vomiting and loss of consciousness. Higher concentrations are reported to produce unconsciousness and death. Carbon Dioxide is also a simple asphyxiant. May replace oxygen in the atmosphere. Symptoms of approaching asphyxia include accelerated pulse rate, increase in the rate and volume of respiration, decreased ability to think clearly, inattention and loss of muscle coordination. At only 10-14%, there may be nausea and vomiting, and an inability to move. Below 6% oxygen, breathing is likely to be in gasps, with risk of convulsions. Breathing a pure carbon Dioxide atmosphere may result in immediate loss of consciousness and death within a few minutes.
Chronic:		Carbon dioxide may be harmful on long exposure at levels below 1%, causing increased concentration of bicarbonate ions in the body, and possible acidosis. This may lead to calcium deposition in the kidneys and other tissues. Breathing atmospheres of very low oxygen (less than 10%) may result in permanent brain damage.
	LD50:	No data found
	LCLo:	90,000ppm/5 minutes, human

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre **Ph: 131 126**

Swallowed:	If swallowed, do NOT induce vomiting. Give a glass of water.
Skin:	If skin contact occurs, remove contaminated clothing and wash skin thoroughly with warm water, but not hot, water. Obtain medical attention.
Eyes:	If contact occurs with the eyes, open eyes wide and flood with water for at least 15 minutes, then see a doctor.
Inhaled:	Avoid becoming a casualty. In enclosed spaces, wear self contained breathing apparatus. Remove patient from exposure. Apply artificial respiration if not breathing. Administration of oxygen by qualified staff may be appropriate.

FIRST AID FACILITIES

Recommended:	Hand Wash Basin Emergency Shower Oxygen resuscitation equipment
Advice to Doctor:	Product is Carbon Dioxide, refrigerated liquid. Risk of frostbite on skin contact. Simple asphyxiant. Contact Poisons Information Centre.

PRECAUTIONS FOR USE

EXPOSURE LIMITS (NOHSC)

TLV-TWA:	5,000ppm 9,000mg/m3
TLV-STEL:	30,000ppm 54,000mg/m3
Engineering Controls:	Installation should only be performed by experienced and trained personnel. All exposed surfaces should be adequately insulated for low temperatures and protected against skin contact. Ensure adequate ventilation (same as outdoors) when using. Keep pressure relief valve free from icing and blockage. Consider local mechanical exhaust/extraction or forced ventilation to keep airborne contamination below TLV. Do not use materials that may become embrittled by low temperatures as materials of construction.

PRECAUTIONS FOR USE cont.

Personal Protection:	Do not breathe concentrated vapour levels. Prevent contact with the skin and eyes. Personal protection to be selected from those recommended below, as appropriate to mode of use, quantity handled and degree of hazard: Self-Contained breathing apparatus
	Positive pressure or Air-fed hood Face shield Insulated gloves or gauntlets Insulating overalls Safety Shoes
Flammability:	Not flammable

SAFETY HANDLING INFORMATION

STORAGE AND TRANSPORT

Storage Temperature:	Refrigerated
UN Class:	2.2 Non-flammable, non toxic gas
Packaging Group:	Not applicable
UN Number:	2187 Carbon Dioxide, refrigerated liquid
EPG Number:	2C2
Correct Shipping Name:	Carbon Dioxide, refrigerated liquid

Observe requirements of The Australian Code for the Transport of Dangerous Goods by Road and Rail. Observe the requirements of State Dangerous Goods (Storage and Handling) Regulations.

STORAGE ADVICE

Store in a cool, well-ventilated place. Store cylinders upright in an enclosure, preferably outside of buildings, protected from direct sunlight. Secure cylinders by chains or similar device to prevent falling over. Store cylinders below 45°C. Prevent vapours from collecting in enclosed or low lying spaces. Keep away from flammable or combustible materials. Keep away from vehicular traffic and other thoroughfares. Protect from physical damage. Protect regulators and other fittings from impact.

SPILLS AND DISPOSAL

CAUTION: Before dealing with spillage take the necessary protective measures, inform others to keep at a safe distance. Contact supplier for specific assistance. Allow gas from re-entering ventilation intakes or similar. Leaking gases may form a fog, affecting visibility. Gas is heavier than air. Consider the vented gases as an asphyxiating atmosphere; take precautions to remove personnel from downwind and downhill. Prevent venting gases from collecting in channels, drains or low lying areas.

FIRE/EXPLOSION HAZARD

Not a fire hazard. May form explosive mixtures with some metal dusts, including aluminium, chromium, magnesium and magnesium/titanium alloys. Leaking fixtures may form a dry ice plug where pressure is released. This pressure can vent suddenly if the solid carbon dioxide is heated.

DECOMPOSITION PRODUCTS

Carbon Dioxide.

Insulation materials may release noxious gases if decomposed in fire.

In case of small fire/explosion use: Flooding quantities of water

In case of major emergency:

Hazchem Code: 2RE

Extinguishant: Water fog or fine water spray

Danger of violent reaction or explosion? No

Protective Clothing: Full protective clothing including breathing apparatus and protective gloves

Appropriate Measures: Dilute

Evacuate? Yes

OTHER INFORMATION

Prevent leaking gas from entering drains, gullies, natural depressions and enclosed spaces.

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