

CO² DISPOSABLE GAS BOTTLE

MATERIAL SAFETY DATA SHEET

STATEMENT OF HAZARDOUS NATURE

This product is a simple asphyxiant and is not classified as hazardous according to hazardous substances classification criteria of WorkSafe Australia.

COMPANY DETAILS



Company: Dynaweld Industrial Supplies Pty Ltd
Address: 123 Fairford Road
Padstow NSW 2211
Australia
Phone: (02) 9772 1144
Fax: (02) 9774 1685

IDENTIFICATION

Product Names: Carbon Dioxide
Other Names: CO₂, Carbon Dioxide Compressed
UN Number: 1013
Dangerous Goods Class: 2.2
And Subsidiary Risk:
Hazchem Code: NA
Poisons Schedule Number: None allocated
Use: Welding shielding gas, inert atmosphere, beverage and insecticide dispensing, high purity applications.

PHYSICAL DESCRIPTION & PROPERTIES

Appearance: Colourless and odourless gas
Boiling Point: No liquid phase at ambient pressure, exists as solid carbon dioxide at -78 approximately (°C at 101.32 kPa)
Vapour Pressure: 6,300 approximately (kPa at 25 °C)
Relative density: 1.53^{°C}
Flashpoint: Non flammable
Flammability Limits: Non flammable
Solubility in Water: 0.759cm³/ cm³
Other Properties: Cylinder pressure when full at 15 °C: 60 Bar
Material compatibility: Non-corrosive
Cylinder colour: White
Cylinder valve outlet: AS2473 Type 10, CGA580 imported cylinders
Cylinder valve safety device: Burst disc
approximate weight when full: 1120 grams

INGREDIENTS

Chemical Name	CAS Number	Proportion
Carbon Dioxide	124-38-9	99.8% min
Anaerobic Grade		99.95% min
SFC and Coleman		99.99% min
261		99.99% min
131		99.995% min

HEALTH HAZARD INFORMATION

HEALTH EFFECTS: Contains carbon dioxide at concentrations above its recommended exposure standard. LCLo (lowest reported lethal concentration) human 90,000 ppm 5 minutes.

Acute Effects: Escaping liquid from the cylinder can form a dry ice powder like snow. Uncontrolled release of compressed gas may cause physical injuries in addition to the following health effects.

Swallowed: Solid carbon dioxide will cause severe cold burns to mouth and throat.

Eye: Eye contact with dry ice powder could result in frostbite or cold burns.

Skin: Skin contact with dry ice powder could result in frostbite or cold burns.

Inhaled: At low concentrations of 3 to 5% by volum in air can cause increased respiration and headache. Concentrations of 8 to 15% can cause headache, nausea and vomiting which may lead to unconsciousness. Higher concentrations can cause rapid circulatory insufficiency leading to coma and death.

Chronic Carbon Dioxide is potentially toxic at concentrations below 3% due to cellular membrane effects and biochemical alterations such as increased partial pressure of carbon dioxide, increased concentration of bicarbonate ions and acidosis. Long term exposures to levels between 0.5 and 1% are likely to cause calcium deposition in body tissues including kidneys.

FIRST AID: Rescue personnel are advised to monitor oxygen concentration or use self contained breathing apparatus when entering confined spaces and poorly ventilated areas.

Swallowed: Drink large volumes of water. Seek medical attention.

Eye: Dry ice powder: keep patient calm. Immediately flush with tepid water in large quantities, or with sterile saline solution. Hold eyelids apart and irrigate with gentle flow for 15 minutes bathing entire eyeball. Seek medical attention.

Skin: Cold burns: irrigate with tap or tepid water for 15 to 30 minutes. Apply sterile dressing and treat as thermal burn. Immerse large areas or limbs in tap or tepid water for 15 to

30 minutes. Do not apply any form of direct heat. Seek medical attention.

Inhaled: Remove from exposure. Check there is no obstruction to the airway if breathing is weak or has ceased and give artificial respiration, preferably using an oxygen resuscitator. Keep warm and rested. Seek medical attention.

First Aid Facilities: Air-Viva™ or OxyViva™. Water or sterile saline solution for irrigation.

ADVICE TO DOCTOR: Treatment for cold burns or asphyxiation.

PRECAUTIONS FOR USE

Exposure Standards: WorkSafe exposure standard TLV TWA is 5,000 ppm (0.5 vol%) and STEL is 30,000 ppm.

Engineering Controls: Do not expose cylinder to aggressive chemical or industrial environment which will affect the integrity of the cylinder. High pressure liquefied gas cylinder designed for gas withdrawal applications unless marked with black eductor tube stripe. Sustained high gas flow rates and pressure drops can generate liquid and solid carbon dioxide in pipework and equipment. Securely connect regulator or manifold having suitable pressure and flow rating with connection to match cylinder valve outlet. Do not connect as gas regulator to a liquid withdrawal cylinder valve. Never allow oil or grease on cylinder valves. Cylinders and manifolds should be positioned in well ventilated areas, preferably outside a building with low pressure gas piped to equipment. Some plastics and rubbers are unsuitable due to low temperature embrittlement and leaching of plasticisers. Do not trap liquid between closed valves and provide a relief valve in each pipework section which can be isolated. Connect all safety relief devices to a safe location having good natural ventilation. Check for leaks prior to use. Mechanical lifting devices and trolleys should be used to lift and move cylinders. Secure cylinders against falling at all times, especially when in use. Ensure cylinder valve is shut and equipment depressurised before commencing maintenance and repairs. Solid carbon dioxide formed on rapid release of pressure may block pipework and equipment. Any contained pressure may be released suddenly when the solid is warmed.

Personal Protection: Avoid contact with escaping product. Only experienced and properly trained people should use this product. Wear safety glasses, safety shoes, use leather or cotton protective gloves when moving and connecting cylinders. Open cylinder valve slowly to avoid pressure shock and close when not in use.

Flammability: Non-flammable product.

SAFE HANDLING INFORMATION

- Storage and Transport:** Refer to Commonwealth, State and Territory Dangerous Goods legislation for requirements which affect compressed gas storage and transport.
Store: Cylinders should be stored upright, prevented from falling, in a secure area away from flammable liquids or combustible materials and food stuffs; below 45°C, dry, well ventilated area constructed of non-combustible material with firm level floor (preferably concrete), away from areas of heavy traffic and emergency exits.
Transport: Ensure cylinder is separated from driver and the outlet of relief device is not obstructed.
Shipping Name: Carbon Dioxide
Transport EPG card: 2C1.
- Spills and Disposal:** Always connect to equipment suitable for carbon dioxide. In an emergency allow gas to escape to atmosphere, preferable in a well ventilated, remote area. Monitor oxygen concentration in confined spaces. Leak checking may be done by pressure drop test or by using soapy water on joints and outlets. Shut cylinder valve to stop gas leaks from equipment if possible and safe to do so. If cylinder or cylinder valve is leaking then shut the cylinder valve, depressurise the equipment, disconnect cylinder from equipment and move the cylinder to a well ventilated area, preferably outdoors, and allow gas to escape. Never attempt to repair a leaking or damaged cylinder valve.
- Fire/Explosion Hazard:** Temperatures in a fire may cause cylinders to rupture and internal pressure devices to be activated. There are no hazardous decomposition products. Call fire brigade. Cool cylinders exposed to fire by applying water from a protected location. Do not approach cylinders suspected of being hot. Remove cool cylinders from the path of the fire. Evacuate the area if unable to keep cylinders cool.

CONTACT POINT

As per company details on page 1.

The information contained in this MSDS is, to the best of our knowledge correct and complete. This MSDS is meant to describe the safety requirements of our products and should not be construed as guaranteeing specific properties. No warranty express or implied is made to the accuracy reliability or completeness of this document.