

PRODUCT NAME CARBON DIOXIDE (MEDICAL)

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name COREGAS PTY LTD
Address 66 Loftus Rd, Yennora, NSW, AUSTRALIA, 2161
Telephone (02) 9794 2222
Fax (02) 9794 2221
Emergency 1300 657 070
Email info@coregas.com
Web Site http://www.coregas.com/
Synonym(s) 10831007 - MSDS NUMBER
Use(s) INDUSTRIAL APPLICATIONS
MSDS Date 30 May 2008

2. HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC CRITERIA

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN No.	1013	DG Class	2.2	Subsidiary Risk(s)	None Allocated
Pkg Group	None Allocated	Hazchem Code	2RE	EPG	2C1

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
CARBON DIOXIDE	CO2	124-38-9	100%

4. FIRST AID MEASURES

Eye Treatment for cold burns: Immediately flush with tepid water or with sterile saline solution. Hold eyelids apart and irrigate for 15 minutes. Seek medical attention.

Inhalation If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator or Self Contained Breathing Apparatus (SCBA). Apply artificial respiration if not breathing. Give oxygen if available.

Skin Cold burns: Remove contaminated clothing and gently flush affected areas with warm water (30°C) for 15 minutes. Apply sterile dressing and treat as for a thermal burn. For large burns, immerse in warm water for 15 minutes. DO NOT apply any form of direct heat. Seek immediate medical attention.

Ingestion For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form. If ingestion occurs, drink large amounts of water.

Advice to Doctor Treat for asphyxia and cold burns.

PRODUCT NAME CARBON DIOXIDE (MEDICAL)

5. FIRE FIGHTING MEASURES

Flammability	Non flammable.
Fire and Explosion	Non flammable. Temperatures in a fire may cause cylinders to rupture. 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. Ensure work area is thoroughly ventilated before re-entry.
Extinguishing	Non flammable. Use water fog to cool containers from protected area.
Hazchem Code	2RE

6. ACCIDENTAL RELEASE MEASURES

Spillage	If the cylinder is leaking, eliminate all potential ignition sources and evacuate area of personnel. Inform manufacturer/supplier of leak. Wear appropriate PPE and carefully move it to a well ventilated remote area, then allow to discharge. Do not attempt to repair leaking valve or cylinder safety devices.
-----------------	---

7. STORAGE AND HANDLING

Storage	Do not store near sources of ignition or incompatible materials. Cylinders should be stored below 45°C in a secure area, upright and restrained to prevent cylinders from falling. Cylinders should also be stored in a dry, well ventilated area constructed of non-combustible material with firm level floor (preferably concrete), away from areas of heavy traffic and emergency exits.
Handling	Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

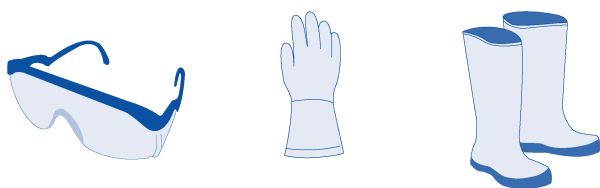
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Stds	Ingredient	Reference	TWA		STEL	
			ppm	mg/m3	ppm	mg/m3
	Carbon dioxide	NOHSC (AUS)	5000.0	9000.0	30000.0	54000.0
		NOHSC (AUS)	12500.0	22500.0	30000.0	54000.0

Biological Limits No biological limit allocated.

Engineering Controls Use with adequate natural ventilation. Open windows and doors where possible. In poorly ventilated areas, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

PPE Wear safety boots, cotton or leather gloves and safety glasses. Where an inhalation risk exists, wear an Air-line respirator or self Contained Breathing Apparatus (SCBA).



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS GAS	Solubility (water)	INSOLUBLE
Odour	ODOURLESS	Specific Gravity	NOT AVAILABLE
pH	NOT AVAILABLE	% Volatiles	NOT AVAILABLE
Vapour Pressure	NOT AVAILABLE	Flammability	NON FLAMMABLE
Vapour Density	NOT AVAILABLE	Flash Point	NOT RELEVANT
Boiling Point	NOT AVAILABLE	Upper Explosion Limit	NOT RELEVANT
Melting Point	NOT AVAILABLE	Lower Explosion Limit	NOT RELEVANT
Evaporation Rate	NOT AVAILABLE	Autoignition Temperature	NOT AVAILABLE

PRODUCT NAME CARBON DIOXIDE (MEDICAL)

10. STABILITY AND REACTIVITY

Chemical Stability Stable under recommended conditions of storage.

Conditions to Avoid Avoid shock, friction, heavy impact, heat, sparks, open flames and other ignition sources.

Material to Avoid Moist carbon dioxide is corrosive, hence acid resistant materials are required (stainless steel). Certain properties of some plastics and rubbers may be affected by gas or liquid, ie. embrittlement, leaching of plasticisers, etc. Dust of aluminium, chrome and manganese ignite and explode when heated in carbon dioxide. Incompatible with acrylaldehyde, aziridine, metal acetylides, sodium peroxide. Corrosive when moist.

Decomposition May evolve toxic gases if heated to decomposition.

Hazardous Reactions Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary Asphyxiant gas. Severe frost-bite burns may result from exposure to cold vapour or liquid. Carbon dioxide concentrations of 3-5 % in air cause increased respiration and headache. Concentrations of 8-15% cause headache, nausea and vomiting which may lead to unconsciousness if not moved to open air and given oxygen. Inhalation of a mixture containing no oxygen may result in unconsciousness from the first breath and death will follow in a few minutes. Adverse health effects to long term exposure to carbon dioxide have not been reported. However in environments such as submarines where exposure to levels of 0.5% to 1.0% may occur, specialist medical opinion should be sought on the effects of long term exposure.

Eye Non irritant. However, direct contact with evaporating liquid may result in severe cold burns with possible permanent damage.

Inhalation Non irritant - Asphyxiant.

Skin Non irritant. Contact with evaporating liquid (eg. cold vessels or pipes containing low pressure liquid) may result in frost-bite with severe tissue damage.

Ingestion Ingestion is considered unlikely due to product form.

Toxicity Data No LD50 data available for this product.

12. ECOLOGICAL INFORMATION

Environment Carbon dioxide is a natural component of the earth's atmosphere (0.027 - 0.035 % v/v). However, increases in the atmospheric carbon dioxide levels have been linked with global warming, and hence emission of carbon dioxide into the atmosphere should be minimised as far as possible.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Cylinders should be returned to the manufacturer or supplier for disposal of contents.

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

Transport Ensure cylinder is separated from driver and that outlet of relief device is not obstructed.



CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

Shipping Name	CARBON DIOXIDE				
UN No.	1013	DG Class	2.2	Subsidiary Risk(s)	None Allocated
Pkg Group	None Allocated	Hazchem Code	2RE	EPG	2C1
IATA					
Shipping Name	CARBON DIOXIDE				
UN No.	1013	DG Class	2.2	Subsidiary Risk(s)	None Allocated
Pkg Group	None Allocated				

PRODUCT NAME CARBON DIOXIDE (MEDICAL)

IMDG				
Shipping Name	CARBON DIOXIDE			
UN No.	1013	DG Class	2.2	Subsidiary Risk(s) None Allocated
Pkg Group	None Allocated			

15. REGULATORY INFORMATION

Poison Schedule	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).
AICS	All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Additional Information	<p>ABBREVIATIONS: ADB - Air-Dry Basis. BEI - Biological Exposure Indice(s) CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds. CNS - Central Nervous System. EINECS - European INventory of Existing Commercial chemical Substances. IARC - International Agency for Research on Cancer. M - moles per litre, a unit of concentration. mg/m3 - Milligrams per cubic metre. NOS - Not Otherwise Specified. NTP - National Toxicology Program. OSHA - Occupational Safety and Health Administration. pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). ppm - Parts Per Million. RTECS - Registry of Toxic Effects of Chemical Substances. TWA/ES - Time Weighted Average or Exposure Standard.</p>
-------------------------------	---

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this Chem Alert report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

Report Status	This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Material Safety Data Sheet ('MSDS').
----------------------	---

It is based on information concerning the product which has been provided to RMT by the manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this MSDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this MSDS.

Prepared By	Risk Management Technologies 5 Ventnor Ave, West Perth Western Australia 6005 Phone: +61 8 9322 1711 Fax: +61 8 9322 1794 Email: info@rmt.com.au Web: www.rmt.com.au
--------------------	--

PRODUCT NAME **CARBON DIOXIDE (MEDICAL)**

MSDS Date: 30 May 2008

End of Report

CHEM ALERT