

PRODUCT NAME CARBON DIOXIDE (SOLID)

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name COREGAS PTY LTD
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Synonym(s) 10831006 - 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.	1845	DG Class	9	Subsidiary Risk(s)	None Allocated
Pkg Group	III	Hazchem Code	1R	EPG	9B7

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.

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5. FIRE FIGHTING MEASURES

Flammability	Non flammable.
Fire and Explosion	Non flammable.
Extinguishing	Non flammable.
Hazchem Code	1R

6. ACCIDENTAL RELEASE MEASURES

Spillage	Release to atmosphere will generate vapour fog clouds which can travel considerable distances and affect visibility. These clouds should be treated as asphyxiating atmospheres as the evaporated liquid will have displaced air. Refer to vessel operating instructions. In an emergency allow liquid and gas to escape to atmosphere. Monitor oxygen concentration in confined spaces.
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7. STORAGE AND HANDLING

Storage	Do not store near incompatible materials. Store in a dry, well-ventilated area on a solid surface. Do not store in a glass or sealed container as this can result in rupture or explosion of the container from over-pressurisation. Storage in an insulated container will slow the sublimation process.
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.

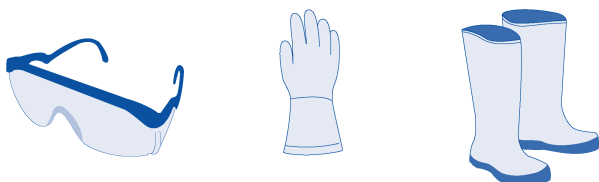
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Stds	Ingredient	Reference	TWA		STEL	
			ppm	mg/m ³	ppm	mg/m ³
	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 in well ventilated areas or use local exhaust extraction ventilation in poorly ventilated areas. Maintain vapour levels below the recommended exposure standard.

PPE Wear safety boots, 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 LIQUID	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

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10. STABILITY AND REACTIVITY

Material to Avoid Low temperature of product will change mechanical properties of some materials. Corrosive when moist.

Decomposition May evolve toxic gases if heated to decomposition.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary Asphyxiant. Severe frost-bite burns may result from direct contact with solid. 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 affects to long term exposure to carbon dioxide have not been reported. However in environments such as submarines where exposure to levels of 0.5-1.0% may occur, specialist medical opinion should be sought on the effects of long term exposure.

Eye Low irritant vapour. However direct contact with dry ice or cold vapour may result in corneal burns and frost-bite with possible permanent damage.

Inhalation Low irritating vapour. However, over exposure to vapour may result in effects that are proportional to oxygen displacement with symptoms that include air hunger, rapid breathing, elevated heart rate, drowsiness and loss of mental alertness. Immediate effects include nausea, vomiting, headache, dizziness, and chest pain. At high levels, lack of coordination, vomiting, mental instability, shaking, lung damage, convulsions, coma and death.

Skin Low irritant (vapour). However, skin contact with dry ice powder could result in frostbite or cold burns.

Ingestion Low toxicity. Solid carbon dioxide will cause cold burns to mouth and throat.

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 Allow product to sublime to the atmosphere in a well ventilated area where no build-up of carbon dioxide vapour can occur. Take measures to ensure no-one comes into contact with the product during this process.

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

Transport Transport on open top vehicles in accordance with Australian Code for the Transport of Dangerous Goods.



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UN No.	1845	DG Class	9	EPG	9B7
Pkg Group	III	Hazchem Code	1R		

IATA

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IMDG				
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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 Application method: Manual handle with personal protective equipment.

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.

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.

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MSDS Date: 30 May 2008

End of Report

CHEM ALERT

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Reviewed: 30 May 2008
Printed: 02 Jun 2008