

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name CARBON DIOXIDE COMPRESSED
Synonyms CARBON DIOXIDE

1.2 Uses and uses advised against

Uses INDUSTRIAL APPLICATIONS

1.3 Details of the supplier of the product

Supplier name POWER 10 GASES PTY LIMITED
Address 9/10 Pioneer Ave, Thornleigh, NSW, 2120, AUSTRALIA
Telephone 1300 669 868
Email enquiries@power10gases.com.au
Website <http://www.power10gases.com.au/>

1.4 Emergency telephone numbers

Emergency 1300 669 868
Poisons Information Centre 13 11 26

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

Physical Hazards

Gases Under Pressure: Compressed gas

Health Hazards

Not classified as a Health Hazard

Environmental Hazards

Not classified as an Environmental Hazard

2.2 GHS Label elements

Signal word WARNING

Pictograms



Hazard statements

H280 Contains gas under pressure; may explode if heated.

Prevention statements

None allocated.

Response statements

None allocated.

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Storage statements

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

Disposal statements

None allocated.

2.3 Other hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|----------------|------------|-----------|---------|
| CARBON DIOXIDE | 124-38-9 | 204-696-9 | 99.9% |

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye None required.

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. It is recommended that warm water is applied to clothing before removing it so as to prevent further skin damage. 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 Ingestion is not considered a potential route of exposure.

First aid facilities None allocated.

4.2 Most important symptoms and effects, both acute and delayed

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility / consciousness. Victim may not be aware of asphyxiation. Low concentrations of CO₂ cause increased respiration and headache.

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Use water fog to cool containers from protected area.

5.2 Special hazards arising from the substance or mixture

Non flammable.

5.3 Advice for firefighters

Temperatures in a fire may cause cylinders to rupture. Cool cylinders or containers exposed to fire by applying water from a protected location. Remove cool cylinders from the path of the fire. Evacuate the area if unable to keep cylinders cool. Do not approach cylinders or containers suspected of being hot.

5.4 Hazchem code

2RE

2 Fine Water Spray.

R Wear liquid-tight chemical protective clothing and breathing apparatus. Dilute spill and run-off.

E Evacuation of people in and around the immediate vicinity of the incident should be considered.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Use Personal Protective Equipment (PPE) as detailed in Section 8 of the SDS.

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6.2 Environmental precautions

Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

6.3 Methods of cleaning up

Carefully move material to a well ventilated remote area, then allow to discharge if safe to do so. Do not attempt to repair leaking valve or cylinder safety devices.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Use of safe work practices are recommended to avoid inhalation. Do not drag, drop, slide or roll cylinders. The uncontrolled release of a gas under pressure may cause physical harm. Use a suitable hand truck for cylinder movement.

7.2 Conditions for safe storage, including any incompatibilities

Do not store near incompatible materials. Cylinders should be stored below 65°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.

7.3 Specific end uses

No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards

| Ingredient | Reference | TWA | | STEL | |
|------------------------------|----------------|-------|-------------------|-------|-------------------|
| | | ppm | mg/m ³ | ppm | mg/m ³ |
| Carbon dioxide | SWA [AUS] | 5000 | 9000 | 30000 | 54000 |
| Carbon dioxide in coal mines | SWA [AUS] | 12500 | 22500 | 30000 | 54000 |
| Carbon dioxide in coal mines | SWA [Proposed] | 5000 | 9000 | 30000 | 54000 |

Biological limits

No biological limit values have been entered for this product.

8.2 Exposure controls

Engineering controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

PPE

| | |
|--------------------|--|
| Eye / Face | Wear safety glasses. |
| Hands | Wear leather gloves. |
| Body | Wear safety boots. |
| Respiratory | Where an inhalation risk exists, wear Self Contained Breathing Apparatus (SCBA) or an Air-line respirator. |



9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|----------------------|----------------|
| Appearance | COLOURLESS GAS |
| Odour | ODOURLESS |
| Flammability | NON FLAMMABLE |
| Flash point | NOT RELEVANT |
| Boiling point | NOT AVAILABLE |

9.1 Information on basic physical and chemical properties

| | |
|---------------------------|---------------|
| Melting point | NOT AVAILABLE |
| Evaporation rate | NOT AVAILABLE |
| pH | NOT AVAILABLE |
| Vapour density | NOT AVAILABLE |
| Solubility (water) | INSOLUBLE |
| Vapour pressure | NOT AVAILABLE |
| Upper explosion limit | NOT RELEVANT |
| Lower explosion limit | NOT RELEVANT |
| Partition coefficient | NOT AVAILABLE |
| Autoignition temperature | NOT AVAILABLE |
| Decomposition temperature | NOT AVAILABLE |
| Viscosity | NOT AVAILABLE |
| Explosive properties | NOT AVAILABLE |
| Oxidising properties | NOT AVAILABLE |
| Odour threshold | NOT AVAILABLE |

10. STABILITY AND REACTIVITY

10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

10.2 Chemical stability

Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions

Polymerization will not occur.

10.4 Conditions to avoid

Avoid contact with incompatible substances.

10.5 Incompatible materials

Moist carbon dioxide is corrosive, hence acid resistant materials are required (e.g. stainless steel). Certain properties of some plastics and rubbers may be affected by carbon dioxide (i.e. embrittlement, leaching of plasticisers, etc).

10.6 Hazardous decomposition products

This material will not decompose to form hazardous products other than that already present.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

| | |
|--------------------------|--|
| Acute toxicity | Based on available data, the classification criteria are not met. Low concentrations of carbon dioxide cause increased respiration and headache. |
| Skin | Not classified as a skin irritant. |
| Eye | Not classified as an eye irritant. |
| Sensitisation | Not classified as causing skin or respiratory sensitisation. |
| Mutagenicity | Not classified as a mutagen. |
| Carcinogenicity | Not classified as a carcinogen. |
| Reproductive | Not classified as a reproductive toxin. |
| STOT - single exposure | Asphyxiant. Effects are proportional to oxygen displacement. Over exposure may result in dizziness, drowsiness, weakness, fatigue, breathing difficulties and unconsciousness. |
| STOT - repeated exposure | Not classified as causing organ damage from repeated exposure. |
| Aspiration | Not classified as causing aspiration. |

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No information provided.

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12.2 Persistence and degradability

No information provided.

12.3 Bioaccumulative potential

No information provided.

12.4 Mobility in soil

No information provided.

12.5 Other adverse effects

When discharged to the atmosphere, carbon dioxide may contribute to the greenhouse effect.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

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

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



| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|------------------------------------|----------------------|----------------------------|-----------------------------|
| 14.1 UN Number | 1013 | 1013 | 1013 |
| 14.2 Proper Shipping Name | CARBON DIOXIDE | CARBON DIOXIDE | CARBON DIOXIDE |
| 14.3 Transport hazard class | 2.2 | 2.2 | 2.2 |
| 14.4 Packing Group | None allocated. | None allocated. | None allocated. |

14.5 Environmental hazards

No information provided.

14.6 Special precautions for user

Hazchem code 2RE

GTEPG 2C1

EmS F-C, S-V

Other information Ensure cylinder is separated from driver and that outlet of relief device is not obstructed. Refer to Commonwealth, State and Territory Dangerous Goods Legislation which contain requirements which affect gas storage and transport.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Poison schedule A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Classifications Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

Inventory listings **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**
All components are listed on AIIC, or are exempt.

16. OTHER INFORMATION

Additional information The storage of significant quantities of gas cylinders must comply with AS4332 The storage and handling of gases in cylinders.

APPLICATION METHOD: Gas regulator of suitable pressure and flow rating fitted to cylinder or manifold with low pressure gas distribution to equipment.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, 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.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: form of product; 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 report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

| | |
|-------------------|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m ³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier 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, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, 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 SDS.

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