SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product Identifier

Product Name: CARBON DIOXIDE, COMPRESSED
Synonyms: CO_2, Industrial Grade Carbon Dioxide
Product Code: A2000

1.2 Relevant Identified Uses and Uses Advised Against

Identified Uses: Industrial applications, inerting, welding, water treatment
Uses Advised Against: Not for medical or food use

1.3 Supplier Details

Supplier: Industrial Gases New Zealand Ltd t/a Eziswap Gas
Address: 6a Canaveral Drive, Rosedale, Auckland, NEW ZEALAND
Phone: +64 9 444 0357
Email: sales@eziswapgas.co.nz
Website: http://www.eziswapgas.co.nz

1.4 Emergency Telephone Number

Emergency Telephone (NZ Only): 111

2. HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

- Gases under pressure – Compressed gas
- Simple asphyxiant (may displace oxygen at high concentrations)

2.2 GHS Label Elements

Signal Word: **WARNING**

Pictogram:

Hazard Statements:

- H280: Contains gas under pressure; may explode if heated

Precautionary Statements:

- P103: Read label before use
- P410+P403: Protect from sunlight. Store in a well-ventilated place

2.3 Other Hazards

- At high concentrations, may displace oxygen and cause asphyxiation
- Rapid release of gas may cause cold burns or frostbite

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	CAS Number	EC Number	Content (v/v)
Carbon Dioxide	124-38-9	204-696-9	>99.5%

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

- **Inhalation**: Remove to fresh air. If breathing is difficult, give oxygen. Seek medical attention
- **Skin Contact:** In case of cold burn or frostbite, rinse with lukewarm water. Do not rub. Seek medical attention.
- **Eye Contact:** Rinse with water for several minutes. Remove contact lenses if present and easy to do. Seek medical advice.
- **Ingestion:** Not applicable.

4.2 Most Important Symptoms and Effects

- Dizziness, nausea, unconsciousness due to oxygen deficiency
- Cold burns with exposure to liquefied gas

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

- Provide oxygen or ventilation support as required
- Treat symptomatically

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media

Non-flammable gas. Use extinguishing agents appropriate for surrounding fire.

5.2 Special Hazards Arising from the Substance

- Cylinders may rupture violently in fire conditions
- May displace oxygen in confined areas

5.3 Advice for Firefighters

- Use SCBA and full protective gear
- Cool cylinders with water spray from a safe distance
- Evacuate area if leak or fire involves compressed gas

5.4 Hazchem Code

2T

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

- Evacuate area
- Ensure proper ventilation
- Avoid breathing gas
- Use SCBA in confined or low-oxygen environments

6.2 Environmental Precautions

Avoid discharge into enclosed or poorly ventilated areas

6.3 Methods and Materials for Containment and Clean-Up

- Stop leak if safe to do so
- Vent gas to a safe, open area

6.4 Reference to Other Sections

See Sections 8 and 13

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling

- Use only with adequate ventilation
- Avoid contact with skin or eyes when handling cold gas
- Do not drop or handle cylinders roughly

7.2 Conditions for Safe Storage, Including Any Incompatibilities

Do not store near 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.

7.3 Specific End Use(s)

Used in industrial and welding applications

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters (Workplace Exposure Standards - NZ WES 2022)

- **Carbon Dioxide:**
  - **TWA**: 5000 ppm (9000 mg/m³)
  - **STEL**: 30000 ppm (54000 mg/m³)

8.2 Exposure Controls

- **Engineering Controls:** Provide adequate general and local ventilation
- **Personal Protective Equipment (PPE):**
  - **Eye Protection:** Safety goggles
  - **Skin Protection:** Insulated gloves for cryogenic handling
  - **Respiratory Protection:** Use SCBA if oxygen levels are unknown or low

9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Value
Appearance	Colourless, odourless gas
Boiling Point	-78.5°C
Vapour Pressure	~5,700 kPa at 20°C
Vapour Density (Air=1)	1.52
Solubility in Water	1.45 vol/vol
pH	Slightly acidic in solution
Flammability	Non-flammable
Critical Temperature	31°C

10. STABILITY AND REACTIVITY

10.1 Reactivity
Stable under recommended conditions

10.2 Chemical Stability
Stable under normal temperature and pressure

10.3 Possibility of Hazardous Reactions
None expected under normal use

10.4 Conditions to Avoid
Heat, direct sunlight, and poor ventilation

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). The manufacturer reports that dusts of aluminium, chrome and manganese may ignite and explode when heated in carbon dioxide. Also incompatible with acrylaldehyde, aziridine, metal acetylide and sodium peroxide

10.6 Hazardous Decomposition Products
Carbon monoxide (in case of incomplete combustion)

11. TOXICOLOGICAL INFORMATION

- **Acute Toxicity:** Not classified
- **Inhalation**: Can displace oxygen and cause suffocation
- **Skin/Eye Contact:** May cause cold burns on contact with liquefied gas
- **Chronic Effects:** No long-term health effects expected at normal exposure levels

12. ECOLOGICAL INFORMATION

- **Ecotoxicity: Not harmful to aquatic or terrestrial life**
- **Persistence and Degradability:** Readily disperses in air
- **Bioaccumulation:** Not applicable
- **Mobility:** High
- **Other Adverse Effects:** None known

13. DISPOSAL CONSIDERATIONS

- **Product:** Vent slowly to a safe, well-ventilated area
- **Container:** Return cylinders to supplier for refill or disposal
- Do not incinerate or puncture

14. TRANSPORT INFORMATION

Mode	UN Number	Proper Shipping Name	Class	Packing Group	Hazchem	EMS
Land	UN1013	Carbon Dioxide	2.2	Not applicable	2T	—
Sea (IMDG)	UN1013	Carbon Dioxide	2.2	Not applicable	2T	F-C, S-V
Air (IATA)	UN1013	Carbon Dioxide	2.2	Not applicable	—	—

Additional Notes:

- Classified as a Dangerous Good under NZS 5433, IMDG, and IATA
- Hazard Label:

- Ensure cylinder valves are closed and protected during transport

15. REGULATORY INFORMATION

HSNO Approval Code: HSR001018
Group Standard: Carbon Dioxide
Inventory Status: Listed on NZIoC (New Zealand Inventory of Chemicals)

16. OTHER INFORMATION

- This SDS has been prepared in accordance with the Health and Safety at Work (Hazardous Substances) Regulations 2017 and GHS 7
- Ensure safe handling procedures are followed for industrial gas use
- Store in accordance with NZS 5433 and relevant safety requirements
- Revision Date: June 2025