SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product Identifier

Product Name: SHIELDMIX 90/10
Synonyms: Argon/Carbon Dioxide Welding Mix (90% Ar / 10% CO_2)
Product Codes: A1202 (90/10)

1.2 Relevant Identified Uses and Uses Advised Against

Identified Uses: Shielding gas for MIG welding processes
Uses Advised Against: Not for medical or food applications

1.3 Supplier Details

Supplier: Industrial Gases New Zealand Ltd t/a Eziswap Gas
Address: 6 and 10 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

- Asphyxiation hazard in confined or poorly ventilated areas
- Contact with rapidly expanding gas may cause cold burns

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	CAS Number	EC Number	Content (v/v)
Argon	7440-37-1	231-147-0	90%
Carbon Dioxide	124-38-9	204-696-9	10%

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

- **Inhalation:** Remove to fresh air. If breathing is difficult, provide oxygen. Seek medical attention.
- **Skin Contact:** In case of cold burns, flush with lukewarm water. Do not rub.
- **Eye Contact:** Rinse with water if irritation occurs. Seek medical attention if needed.
- **Ingestion:** Not applicable

4.2 Most Important Symptoms and Effects

- Dizziness, headache, unconsciousness in oxygen-deficient environments
- Cold burns or frostbite with liquefied gas

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

- Treat symptomatically for oxygen deprivation or cold exposure
- Ensure rescue personnel use SCBA

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media

Use extinguishing media appropriate for surrounding fire. Gas mixture is non-flammable.

5.2 Special Hazards Arising from the Substance

- Cylinders may rupture violently in fire
- May displace oxygen and create an asphyxiation hazard

5.3 Advice for Firefighters

- Wear SCBA and full protective gear
- Cool cylinders with water spray
- Evacuate area if leak or fire involves compressed gas

5.4 Hazchem Code

2TE

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

- Evacuate area
- Provide adequate ventilation
- Use SCBA in confined or oxygen-deficient environments

6.2 Environmental Precautions

No significant environmental hazard expected

6.3 Methods and Materials for Containment and Clean-Up

- Stop leak if safe to do so
- Vent gas to a safe outdoor location

6.4 Reference to Other Sections

See Sections 8 and 13

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling

- Do not inhale gas
- Avoid contact with cold liquid
- Use only with equipment rated for compressed gas mixtures

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 Use(s)

Shielding gas for MIG welding processes

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters (NZ WES 2022)

- **Carbon Dioxide:**
  - **TWA:** 2,500 ppm (4,900 mg/m³)
  - **STEL**: 4,870 ppm (9,400 mg/m³)
- **Argon:** No occupational exposure limit assigned

8.2 Exposure Controls

- **Engineering Controls:** Ensure adequate ventilation during use
- **Personal Protective Equipment (PPE)**:
  - **Eye Protection:** Safety goggles recommended when handling cylinders
  - **Skin Protection:** Wear protective gloves if handling cold gas
  - **Respiratory Protection:** SCBA in case of insufficient oxygen

9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Value
Appearance	Colourless, odourless gas
Boiling Point	Approx. -186°C (for this mixture)
Vapour Pressure	Not applicable
Vapour Density (Air=1)	>1
Flammability	Non-flammable
Solubility in Water	Slight (CO_2 slightly soluble)
Critical Temperature	Approx. 29°C (for this mixture)

10. STABILITY AND REACTIVITY

10.1 Reactivity
Inert under normal conditions

10.2 Chemical Stability
Stable at ambient conditions

10.3 Possibility of Hazardous Reactions
None under normal use

10.4 Conditions to Avoid
Heat, ignition sources, enclosed spaces

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). Dust of aluminium, chrome, manganese may ignite then explode when heated in carbon dioxide. Incompatible with acrylaldehyde, aziridine, metal acetylides, sodium peroxide

10.6 Hazardous Decomposition Products
None

11. TOXICOLOGICAL INFORMATION

- **Acute Toxicity:** Not toxic
- **Inhalation:** May displace oxygen and cause asphyxiation
- **Skin/Eye Contact:** May cause cold burns with rapid release
- **Chronic Effects:** None expected

12. ECOLOGICAL INFORMATION

- **Ecotoxicity:** Not classified as hazardous
- **Persistence and Degradability:** Will dissipate into atmosphere
- **Bioaccumulation:** Not applicable
- **Mobility**: High
- **Other Adverse Effects:** None

13. DISPOSAL CONSIDERATIONS

- **Product**: Vent to a safe location in open air
- **Container:** Return cylinders to supplier
- Do not incinerate or puncture cylinders

14. TRANSPORT INFORMATION

Mode	UN Number	Proper Shipping Name	Class	Packing Group	Hazchem	EMS
Land	UN1956	Compressed Gas, N.O.S.	2.2	Not applicable	2TE	—
Sea (IMDG)	UN1956	Compressed Gas, N.O.S.	2.2	Not applicable	2TE	F-C, S-V
Air (IATA)	UN1956	Compressed Gas, N.O.S.	2.2	Not applicable	—	—

Additional Notes:

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

- Ensure valve protection and secure loading during transport

15. REGULATORY INFORMATION

- **HSNO Approval Code:** Not required
- **Group Standard:** Not required
- **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
- For industrial welding use only
- Do not use for inhalation or in oxygen-deficient environments without monitoring
- Revision Date: June 2025