

SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product Identifier

Product Name: SHIELDMIX

Synonyms: Argon/Carbon Dioxide Welding Mix

Product Codes: A1201 (82/18), A1202 (90/10), A1203 (98/2), A1204 (75/25)

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	Balance
Carbon Dioxide	124-38-9	204-696-9	2–25%

Typical compositions include:

- SHIELDMIX 82/18 – 82% Argon / 18% CO₂ (A1201)
- SHIELDMIX 90/10 – 90% Argon / 10% CO₂ (A1202)
- SHIELDMIX 98/2 – 98% Argon / 2% CO₂ (A1203)
- SHIELDMIX 75/25 – 75% Argon / 25% CO₂ (A1204)

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

- Store cylinders upright, below 45°C
- Secure cylinders to prevent tipping
- Store in well-ventilated, dry areas away from heat or ignition sources

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	-185 to -78°C (range)
Vapour Pressure	Not applicable
Vapour Density (Air=1)	>1
Flammability	Non-flammable
Solubility in Water	Slight (CO ₂ slightly soluble)
Critical Temperature	-122°C to 31°C (component range)

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

Strong oxidisers or reactive metals in confined systems

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:** HSR001027
- **Group Standard:** Compressed Gases (Non-flammable) Group Standard 2017
- **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