SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product Identifier

Product Name: ACETYLENE, DISSOLVED
Synonyms: Ethyne, Dissolved Acetylene
Product Codes: A5000

1.2 Relevant Identified Uses and Uses Advised Against

Identified Uses: Fuel gas for oxy-acetylene welding, cutting, heating
Uses Advised Against: Not for medical use or food-grade 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

- Flammable gases – Category 1A
- Gases under pressure – Dissolved gas
- Acute toxicity (inhalation) – Category 4

2.2 GHS Label Elements

Signal Word: **DANGER**

Pictogram:

Hazard Statements

- H220: Extremely flammable gas
- H230: May react explosively in the absence of air.
- H280: Contains gas under pressure; may explode if heated

Precautionary Statements

- P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
- P377: Leaking gas fire: Do not extinguish unless leak can be stopped safely
- P381: Eliminate all ignition sources if safe to do so
- P410 + P403: Protect from sunlight. Store in a well-ventilated place

2.3 Other Hazards

- Acetylene forms explosive mixtures with air
- Can decompose explosively under pressure if heated
- May act as an asphyxiant at high concentrations

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	CAS Number	EC Number	Content (v/v)
Acetylene	74-86-2	200-816-9	≥98%

Dissolved in solvent (acetone) in a porous mass for safe handling.

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

- **Inhalation:** Remove victim to fresh air. If breathing is difficult, give oxygen. Seek immediate medical attention.
- **Skin Contact:** Not irritating. If contact with cold gas occurs, warm slowly with water.
- **Eye Contact**: Rinse with lukewarm water. Seek medical attention for irritation or exposure to high pressure.
- **Ingestion:** Not applicable (gas)

4.2 Most Important Symptoms and Effects

- Central nervous system depression: dizziness, drowsiness, headache
- High concentrations may cause unconsciousness or asphyxiation

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

- Treat symptomatically for CNS effects and asphyxia
- Ensure responders have appropriate SCBA

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media

- DO NOT extinguish a leaking gas flame unless leak can be stopped
- Use dry chemical or CO_2 on surrounding fire
- Water spray to cool cylinders

5.2 Special Hazards Arising from the Substance

- Extremely flammable
- Explosion risk in enclosed or heated environments
- Cylinders may rupture violently if heated

5.3 Advice for Firefighters

- Use full protective equipment and SCBA
- Evacuate area
- Stop leak if safe to do so
- Keep cylinders cool with water spray

5.4 Hazchem Code

2SE

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

- Evacuate area immediately
- Eliminate all ignition sources
- Ensure ventilation
- Use SCBA in confined or poorly ventilated spaces

6.2 Environmental Precautions

- Avoid release into enclosed or low-lying areas

6.3 Methods and Materials for Containment and Clean-Up

- Vent gas in a safe area
- Do not re-enter until safe atmosphere confirmed

6.4 Reference to Other Sections

See Sections 8 and 13

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling

- Use only with flame arrestors
- Avoid heat, sparks, and flame
- Open valves slowly and use proper regulators
- Do not use oil or grease on equipment

7.2 Conditions for Safe Storage, Including Any Incompatibilities

Do not store near incompatible substances and sources of ignition. Cylinders should be stored: upright, prevented from falling, in a secure area; below 65°C, 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. Post "No Smoking or Open Flames" signs in the storage areas. Refer to applicable legislation on flammable storage quantity restrictions. Never transfer acetylene to another cylinder or other container. Never open an acetylene cylinder valve without the regulator attached. Gas regulator of suitable pressure and flow rating fitted to cylinder and manifold with low pressure gas distribution equipment which controls fuel gas mixture and flame. The regulator and other equipment must be compatible with the product and suited for the particular use. Never "sniff" acetylene as it may ignite spontaneously. Instead, carefully inspect the outlet and if there are any signs of dirt, blow it out with a jet of clean compressed air or nitrogen

7.3 Specific End Use(s)

Industrial cutting, welding, and heating applications

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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

- Acetylene: TWA 250 ppm (266 mg/m³)

8.2 Exposure Controls

- **Engineering Controls:** Explosion-proof ventilation systems
- **Personal Protective Equipment (PPE)**:
  - **Eye Protection**: Chemical safety goggles or face shield
  - **Skin Protection:** Protective gloves for mechanical protection
  - **Respiratory Protection:** SCBA for leaks, confined spaces, or poor ventilation

9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Value
Appearance	Colourless gas
Odour	Distinct, garlic-like
Boiling Point	-84°C
Flash Point	<23°C
Vapour Density (Air=1)	0.91
Flammability Limits	2.5% – 100% in air
Solubility in Water	Slight
Critical Temperature	35.2°C
Autoignition Temp	305°C
Molecular Weight	26.04

10. STABILITY AND REACTIVITY

10.1 Reactivity

Forms explosive acetylides with copper, silver and mercury. Do not use alloys containing more than 65% copper

10.2 Chemical Stability

Generally stable under recommended conditions of storage. However, sensitive to heat or shock and may become explosive, even in the absence of air

10.3 Possibility of Hazardous Reactions

Polymerises with evolution of heat. Avoid contact with curing agents, accelerators, and/or initiators

10.4 Conditions to Avoid

Avoid shock, friction, heavy impact, heat, sparks, open flames and other ignition sources

10.5 Incompatible Materials

Incompatible with oxidising agents (e.g. hypochlorites), copper, copper alloys (>70% copper), silver and mercury to form explosive acetylides. May decompose violently at high temperatures and/or pressures or in the presence of a catalyst

10.6 Hazardous Decomposition Products

Carbon monoxide and carbon dioxide under combustion

11. TOXICOLOGICAL INFORMATION

- **Acute Toxicity:** Harmful if inhaled
- **Inhalation:** CNS depression, headache, dizziness, nausea
- **Skin/Eye:** Contact with liquefied gas may cause frostbite
- **Chronic Effects:** No known long-term effects

12. ECOLOGICAL INFORMATION

- **Ecotoxicity**: Not expected to harm aquatic life
- **Persistence and Degradability**: Degrades in air
- **Bioaccumulation**: None
- **Mobility:** High
- **Other Adverse Effects:** Displaces oxygen

13. DISPOSAL CONSIDERATIONS

- **Product:** Cylinders should be returned to the manufacturer or supplier for disposal of contents
- **Container:** Return to supplier; do not puncture or incinerate

14. TRANSPORT INFORMATION

Mode	UN Number	Proper Shipping Name	Class	Packing Group	Hazchem	EMS
Land	UN1001	Acetylene, Dissolved	2.1	Not applicable	2SE	—
Sea (IMDG)	UN1001	Acetylene, Dissolved	2.1	Not applicable	2SE	F-D, S-U
Air (IATA)	UN1001	Acetylene, Dissolved	2.1	Not applicable	—	—

Additional Notes:

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

- Cylinders must be secured upright and transported with valves closed and protected

15. REGULATORY INFORMATION

- **HSNO Approval Code:** HSR000987
- **Group Standard:** Ethyne (acetylene)
- **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 proper fire and gas safety training for users
- Inspect cylinders regularly for damage or leaks
- Revision Date: June 2025