

Acetylene

1. Identification of the material and supplier

Supplier name: Supagas Pty Ltd
Address: 23 Commercial Drive, DANDENONG SOUTH, Vic 3175
Telephone: (03) 9706 6262
Fax: (03) 9706 4787
Emergency: 24hr EMERGENCY T: (03) 9883 5623
 EMERGENCY SERVICES: DIAL 000
Website: www.supagas.com.au
Product Name: Acetylene, dissolved
Chemical Name: Acetylene; Ethine; Ethyne; Narcylene.
Chemical Formula: C₂-H₂
Product Uses: Oxy-Acetylene welding, cutting localised heating and flame hardening.

2. Hazards identification

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC CRITERIA CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE.

Risk Phrase:

R5 - Heating may cause explosion
 R6 - Explosive with or without contact with air
 R12- Extremely Flammable

Safety Phrase:

S9 - Keep container in a well ventilated space
 S16- Keep away from sources of ignition - No smoking
 S33- Take precautionary measures against static discharges

3. Composition / information on ingredients

Ingredients:

Name	Proportion	Code
Acetylene C ₂ -H ₂	100%	acetone free

4. First aid measures

If poisoning occurs, contact a doctor or Poisons Information

Center Ph: 131 126

Swallowed: Not applicable.

Skin: If skin contact occurs, remove contaminated clothing and wash skin thoroughly.

Eyes: If in eyes, hold eye open, flood with water for at least 15 minutes and see a doctor.

Inhaled: Remove from exposure immediately, rest and keep warm. If breathing has stopped, apply artificial respiration, with supplemental oxygen if available. Obtain medical attention.

FIRST AID FACILITIES

Recommended: Resuscitation equipment, if handling industrial quantities.

Advice to Doctor: Product is acetylene. Inhalation overexposure may lead to narcosis and/or asphyxia.

5. Fire fighting measures

Flammability: Highly Flammable

Fire and Explosion: Extremely flammable gas, flash point -18°C. Mixtures with air may be flammable or explosive over a wide range of concentrations. Gas is lighter than air and may collect under roof or ceilings. Mixtures with air under pressure may be explosive without an ignition source. May decompose explosively at high pressure and only moderate temperatures even in the absence of air. Exposure to high temperatures, as in a fire, may lead to an explosion. Do not approach cylinders suspected of being hot. Cool cylinders exposed to fire with water from a safe location. Forms explosive acetylides with copper, mercury, silver and their alloys and salts.

Suitable Extinguishing Media: A dry chemical powder extinguisher

Hazchem Code: 2(S)E

Danger of violent reaction or explosion? Yes

Protective Clothing: Full protective clothing including breathing apparatus.

Appropriate Measures: Dilute

Evacuate? Yes

6. Accidental release measures

Disposal of small spillages only

CAUTION: Before dealing with spillage take the necessary protective measures, inform others to keep at a safe distance and, for flammable materials, shut off all possible sources of ignition. Extinguish all naked flames. **NO SMOKING.** Switch off or shut down all non-flameproof equipment. Shut off pressure regulator or cylinder valve if safe to do so. Isolate cylinder if safe to do so. Relieve system pressure. Disconnect cylinder and remove to a safe, open area. Allow to vent slowly to atmosphere. If leak is from cylinder or valve, immediately inform cylinder supplier or emergency services as appropriate. Do not attempt to repair damaged valve or regulator.

7. Handling and storage

Store in a cool, well-ventilated place, out of direct sunlight. Segregate full and empty cylinders. Store cylinders upright and secured. Keep cylinders tightly closed. Keep away from naked flames and other sources of ignition. **NO SMOKING.** Store away from oxidising agents, especially oxygen. Rotate cylinders in storage to ensure that they are not stored for excessive periods. Protect from physical damage, particularly valves and regulators.

8. Exposure control/personal protection

National Occupational Health & Safety Commission (NOHSC) – (WorkSafe Australia)

TLV-TWA: None assigned by NOHSC, but see: Acetylene in ambient air. 3.0µg/m³ (Virginia USA)

TLV-STEL: None assigned

Notation: Asphyxiant (NOHSC)

Engineering Controls: Do not use near flames or other sources of ignition. Do not use silver or copper or their alloys as materials of construction. Ensure adequate ventilation at all times, equivalent to outdoors. Consider local mechanical exhaust/extraction to keep airborne contamination as low as possible.

Personal Protection: Do not breathe gas or products of combustion. Personal protection to be selected from those recommended below, as appropriate to mode of use, quantity handled and degree of hazard:

- Safety Glasses
- Gloves, Leather
- Safety Boots or Safety Shoes
- Overalls

Flammability: Extremely flammable gas, Flash point -18°C. Mixtures with air may be flammable or explosive over a wide range of concentrations. Mixtures with air under pressure may be explosive without an ignition source.

9. Physical and chemical properties

Appearance: Colourless gas, slightly soluble in water

Boiling Point: Sublimes @ -81°C

Melting Point: Not applicable

Vapour Pressure: 4700kPa @ 25°C

Volatiles: 100%

Evaporation Rate: Not applicable

Odour: Faint ethereal odour

Vapour Density: 0.906 (Air = 1)

Weight per ml: Not applicable

Flash Point: -18°C

Flammability Limits: 2.5 – 85% (Also quoted as 2.5 – 100%)

Auto-Ignition Temperature: 305°C

Other Properties: Supplied dissolved in acetone, supported in a porous medium. Extremely flammable gas. Burns brightly in air with a very sooty flame. Soluble in acetic, benzene, diethyl, ethanol. Forms insoluble explosive acetylides with copper, mercury and silver. Impure acetylene may contain traces of arsine, carbon disulphide, carbon monoxide, hydrogen and phosphine.

10. Stability and reactivity

Reacts with Silver, Mercury, Copper and Copper Alloys to form explosive acetylides.

11. Toxicological information

General: May replace oxygen in the inhaled air and cause asphyxiation if the amount of oxygen inhaled is reduced from:

21-14% - pulse rate will accelerate, attention span is diminished, muscular co-ordination can be disturbed.

14-10% - judgement becomes impaired, severe injuries may cause no pain, suffer fatigue.

10 - 6% - may cause nausea and vomiting, permanent brain damage is possible.

6% or less - Convulsions may occur. Inhaling no oxygen would result in death within a few minutes.

12. Ecological information

General: Fume from the fabrication processes may be harmful to the environment.

13. Disposal considerations

General: Return to manufacturer or supplier for correct disposal of cylinders.

14. Transport information

Proper shipping name: Acetylene, dissolved

Formula: HC ≡ CH

Molecular Weight: 26.02

UN Number: 1001 Acetylene, dissolved

Class/Division: 2.1 Flammable gas

Subsidiary risk: None

Hazchem code: 2(S)E

Packaging Group Method: Not applicable

EPG: 2A1

Storage Temperature: Room temperature.

Poisons Schedule: None assigned

Uses: As a fuel.

Observe requirements of The Australian Code for the Transport of Dangerous Goods by Road and Rail. Observe the requirements of State Dangerous Goods (Storage and Handling) Regulations.

15. Regulatory information

Poison Schedule: Not scheduled.

16. Other information

May form explosive products with copper, silver, mercury and their salts. Can detonate powerfully in contact with oxygen.

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