

ACETYLENE (Dissolved)

SAFETY DATA SHEET

(SDS Number – PGC A012022)

Effective Date: July 2022

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product Identifier

PRODUCT NAME: Acetylene, dissolved

SYNONYMS: Acetylene, Dissolved Acetylene, Ethine, Ethyne, Narcylene

1.2 Uses and uses advised against

Uses: Welding, Cutting, instrument fuel

1.3 Details of the supplier of the product

Pacific Gas Pty Limited,
22-26 Cumberland Drive
Seaford, VIC, 3198
Contact Telephone: (61) 408 350 180
Email: info@pacgas.com.au

1.4 Emergency telephone number(s)

Contact Telephone: (61) 408 350 180

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

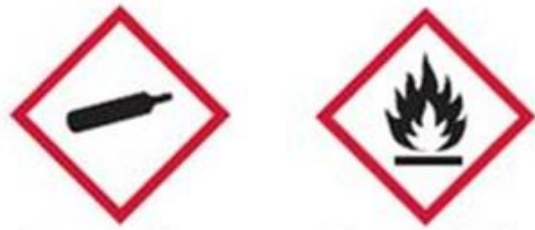
CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

GHS classification(s) Flammable Gases: Category 1
Gases Under Pressure: Dissolved gas

2.2 Label elements

Signal word: DANGER

Pictogram(s)



Hazard statement(s)

H220: Extremely flammable gas.

H280: Contains gas under pressure; may explode if heated

AUH006: Explosive with or without contact with air

Prevention statement(s)

P210: Keep away from heat/sparks/open flames / hot surfaces. No smoking.

Response statement(s)

P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely

P381: Eliminate all ignition sources if safe to do so.

Storage Statement(s)

P410 and P403: Protect from sunlight. Store in a well-ventilated place

Disposal Statement(s)

None allocated

2.3 Other hazards

Asphyxiant, this product may displace oxygen and cause suffocation.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS No	EC Number	Percentage
Acetylene	74-86-2	200-816-9	100%

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

EYE CONTACT: None.

SKIN CONTACT: None.

SKIN ABSORPTION: None.

INGESTION: Considered unlikely.

FIRST AIDE FACILITIES: No information provided.

4.2 Most important symptoms and effects, both acute and delayed

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility / consciousness. Victim may not be aware of asphyxiation. In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination.

4.3 Immediate medical attention and special treatment needed

Treat for asphyxia

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media:

Shut off source of acetylene if possible. Extinguish fire only if flow of acetylene can be stopped. Keep adjacent cylinders cool by spraying large amounts of water until the fire burns itself out and the cylinders are cool. If a flame is extinguished and acetylene continues to escape, an explosive re-ignition could occur.

Cylinders exposed to fire should not be moved until they have reached ambient temperature in the event internal decomposition is taking place.

5.2 SPECIAL HAZARDS ARISING FROM SUBSTANCE OR MIXTURE:

Extremely flammable. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, heaters, naked lights, pilot lights, mobile phones etc. when handling.

Excessive heat or fire will cause fusible metal pressure relief device to melt allowing acetylene to escape. Cylinders may rupture violently if sidewalls are exposed to direct flame impingement.

5.3 Hazchem Code

2SE

2	Fine Water Spray
S	Risk of violent reaction or explosion. Wear full fire kit and breathing apparatus. Dilute spill and run-off.
E	Evacuation of people in and around the immediate vicinity of the incident should be considered.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate immediate area. Eliminate any possible sources of ignition, and provide maximum explosion-proof ventilation. Shut off source of acetylene, if possible. Isolate any leaking cylinder. If leaking from cylinder, valve, or fusible metal pressure relief device, contact your supplier. Never enter a confined space or other area where the concentration is greater than 10% of the lower flammable limit which is 0.25%. Use PPE as detailed in Section 8.

6.2 Environmental precautions

Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

6.3 Methods of cleaning up

Carefully move material to a well ventilated remote area, then allow to discharge if safe to do so. Do not attempt to repair leaking valve or cylinder safety devices.

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Use of safe work practices are recommended to avoid inhalation. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement. Post "No Smoking" or 'Open Flames' signs in the storage or use areas.

7.2 Conditions for safe storage, including any incompatibilities

Store and use with adequate ventilation in a secure area; below 45°C, in an area constructed of non-combustible material with firm level floor. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling or being knocked over. There should be no sources of ignition. All electrical equipment should be explosion-proof in the storage and use areas.

7.3 Specific end use(s)

No information provided

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredient	Reference	TWA		STEL		
		ppm	mg/m ³	ppm	mg/m ³	
Acetylene	SWA (AUS)	Asphyxiant				

Biological limits

No biological limit values have been entered for this product

8.2 Exposure controls

Provide adequate natural or explosion-proof mechanical ventilation to ensure acetylene does not accumulate and reach its lower explosive limit of 2.5%. Confined areas (e.g. tanks) should be adequately ventilated or gas tested.

PPE

Eye / Face	safety glasses
Hands Wear	leather or cotton gloves
Body Wear	coveralls and safety boots
Respiratory	If in a confined area, wear an Air-fed respirator or similar approved Apparatus.



9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	SLIGHT ETHEREAL
ODOUR	ODOUR
Flammability	EXTREMELY FLAMMABLE
Flash point	-18°C
Boiling point	NOT AVAILABLE
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	0.906 (Air = 1)
Vapour density	NOT AVAILABLE
Specific gravity	SLIGHTLY
Solubility (water)	SLIGHTLY SOLUBLE
Vapour pressure	4700 kPa @ 25°C
Upper explosion limit	85%
Lower explosion limit	2.5%
Partition coefficient	NOT AVAILABLE
Autoignition temperature	305°C
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

9.2 Other information

% Volatiles	100%
Sublimation temperature	-81°C

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

Unstable. Stable as shipped. Do not use at pressure above 103 kPa (15 psig).

10.3 Possibility of hazardous reactions

Polymerizes 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

May evolve toxic gases if heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity	Based on available data, the classification criteria are not met
Skin	Not classified as a skin irritant
Eye	Not classified as an eye irritant
Sensitisation	Not classified as causing skin or respiratory sensitisation
Mutagenicity	Not classified as a mutagen
Carcinogenicity	Not classified as a carcinogen
Reproductive	Not classified as a reproductive toxin
STOT – single exposure	Asphyxiant. Effects are proportional to oxygen displacement. Over exposure may result in dizziness, drowsiness, weakness, fatigue, breathing difficulties and unconsciousness.
STOT – repeated exposure	Not classified as causing organ damage from repeated exposure
Aspiration	Not classified as causing aspiration

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No adverse ecological effects are expected.

12.2 Persistence and degradability

No information provided

12.3 Bioaccumulative potential

This product is not expected to bioaccumulate

12.4 Mobility in soil

Because of its high volatility, the product is unlikely to cause ground or water pollution.

12.5 Other adverse effects

No known effects from this product

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal: Do not attempt to dispose of residual or unused quantities. Return cylinder to supplier. Unserviceable cylinders should be returned to the supplier for safe and proper disposal.

Legislation: Dispose of in accordance with relevant local legislation

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE



	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
UN Number	1001	1001	1001
Proper Shipping Name	Acetylene, Dissolved	Acetylene, Dissolved	Acetylene, Dissolved
Transport Hazard Class	2.1	2.1	2.1
Packing Group	None allocated	None allocated	None allocated

14.5 Environmental hazards

No information provided.

14.6 Special precautions for user

Hazchem code: 2SE

GTEPG: 2A1

EMS: F-D, S-U

Other information: Cylinders should be transported in a secure position, in a well ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles can present serious safety hazards and should be discouraged.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Poison Schedule	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).	
Classifications	Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals. The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].	
Hazard Codes	E F+	Explosive Extremely flammable
Risk Phrases	R5 R6 R12	Heating may cause an explosion Explosive with or without contact with air. Extremely Flammable
Safety Phrases	S2 S9 S16 S33	Keep out of reach of children Keep container in a well ventilated place Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.
Inventory Listings	AUSTRALIA: AICS (Australian Inventory of Chemical Substances) All components are listed on AICS, or are exempt	

16. OTHER INFORMATION

Other Information	Application method: 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.
	PERSONAL PROTECTIVE EQUIPMENT GUIDELINES: The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.
	HEALTH EFFECTS FROM EXPOSURE: It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

INFORMATION PREPARED BY:

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