



Acetylene, dissolved

Section 1, Identification

Product Name	: Acetylene, dissolved
Formula	: C ₂ H ₂
Other means of identification	: Ethyne; Acetylene; Narcylen
Product use	: Industrial use (fuel).
Supplier's details	: WKS INDUSTRIAL GAS PTE LTD 22 Tuas Avenue 10 Singapore 639145 T-6898 2292, F-6898 2202 info@wks.com.sg / www.wks.com.sg

Section 2, Hazard(s) identification

Classified as Hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200)

GHS Classification	: Flammable gas, Category 1. : Gases under pressure – Dissolved gas.
Hazard pictogram(s)	: 
Signal word	: Danger.
Hazard statement(s)	: H220 Extremely flammable. : H280 Contains gas under pressure; may explode if heated.
Precautionary statement(s)	: P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking. : P244 Keep reduction valves free from grease and oil. : P271 + P403 Use only outdoors or in a well-ventilated area / Store in a well-ventilated area. : P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely. : P381 Eliminate all ignition sources if safe to do so.
Disposal	: P501 Dispose of contents/container in accordance with container supplier/owner instructions.
Hazards not otherwise classified	: Asphyxiant. Effects are proportional to oxygen displacement.
Hazchem code	: 2SE
H S code	: 29012910

Section 3, Composition/information on ingredients

Name	: Acetylene, dissolved.
CAS No.	: 74-86-2
%	: >98%

**Section 4, First-aid measures****Description of First-Aid measures**

- Inhalation** : Move victim to fresh air and keep at rest in a comfortable position. Seek medical advice/attention.
- Skin contact** : Adverse effects not expected from this product. Dermatitis to the skin upon repeated exposures. Flush contaminated skin with plenty of water.
- Eye contact** : Adverse effects not expected from this product. In case of eye irritation, rinse immediately with plenty of water. Seek medical attention if needed.
- Ingestion** : Ingestion is considered unlikely as this product is in gas form.

Most important symptoms and effects, both acute and delayed

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

Indication of any immediate medical attention and special treatment needed

Treatment for asphyxia.

Section 5, Fire-fighting measures**Extinguishing media**

Use an extinguishing agent appropriate for surrounding fire.

Special hazards arising from the substance or mixture

Extremely flammable. Eliminate all ignition sources (pilot light, naked light, cigarettes, mobile phone, etc.).

Advice for firefighters

Evacuate all personnel. Heat from fire will increase temperatures in cylinder and may cause cylinder to rupture. Cool cylinders or containers by applying water from a safe distance. Stop flow of gas if safe to do so. Remove cylinders from path of fire if safe to do so. Do not approach cylinders suspected of being hot. This material can form explosive mixtures in air. Use self-contained breathing apparatus and protective clothing.

Section 6, Accidental release measures**Personal precautions, protective equipment and emergency procedures**

- Non-emergency personnel** : Evacuate area. Eliminate ignition sources. Ensure adequate air ventilation and wear appropriate respirator when ventilation is inadequate. Wear PPE.
- For emergency responders** : If specialised clothing is required to deal with spillage, refer to Section 8 on suitable and unsuitable materials. See also information in "Non-emergency personnel".
- Environmental precautions** : Try to stop release. Prevent from entering sewers, basement, work pits or any place where its accumulation can be dangerous.

Methods and materials used for containment cleaning up

Stop leak if without risk. Carefully move cylinder to well ventilated remote area and allow discharge if safe to do so. Use spark-proof tools and explosion-proof equipment.



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Section 7, Handling and storage

Precautions for safe handling

Contain under pressure. Do not drag, roll, drop or slide cylinder. Store or use cylinder away from heat, open flame, sparks or any other ignition source. Do not puncture or incinerate cylinder. Open valve slowly and close after use. Use equipment rated for cylinder pressure. Keep cylinders in well ventilated place. Use trolley when moving cylinder.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store cylinders only where temperature will not exceed 52°C. Keep cylinder tightly closed until ready for use. Keep full and empty cylinders separately. Never transfer acetylene to another cylinder or other container. Post "No Smoking or Open Flames" signs in storage and use areas.

Section 8, Exposure controls/personal protection

Control parameters

Exposure standards : Not established.

Biological limits : Not established.

Exposure controls

Engineering controls : Provide adequate ventilation. Do not breathe fumes or gases. Use explosion-proof exhaust system or a mechanical system or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Short-term overexposure to fumes may cause dizziness, nausea, dryness or irritation of the eyes, throat, nose or may cause other similar discomfort.

Individual protection measures

Eye / face : Safety glasses with side shields.

Hand : Gloves.

Body : Safety boots and fire/flame resistant clothing.

Respiratory : When a risk assessment indicates respirator use, use a properly fitted, air-purifying or air-fed respirator complying with an approved standard.

Section 9, Physical and chemical properties

Physical state	: Gas.
Colour	: Colourless.
Odour	: Garlic like. Poor warning properties at low concentration.
Odour threshold	: Not available.
Molecular mass	: 26 g/mol
pH	: Not applicable.
Melting point	: -80.8°C
Boiling point	: -84°C
Flash point	: Not applicable.
Evaporation rate	: Not applicable.
Flammability (solid, gas)	: Extremely flammable.
Upper/lower explosive limits	: 100% / 2.3%
Vapour pressure	: 635 (psig)
Vapour density	: 0.9 (Air = 1)
Relative density	: Not applicable.
Solubility (water)	: 1185mg/l
Oxidizing properties	: Not applicable.
Partition coefficient: n-octanol/water	: 0.37
Auto-ignition temperature	: 305°C



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Decomposition temperature : 635°C
Viscosity : Not available.

Other information
Molecular weight : 26.02 g/mol
Cylinder pressure (when full) : 15.5bar @15°C
Critical pressure : 62.4 bar
Critical temperature : 36.3°C

Section 10, Stability and reactivity

Reactivity : No specific test data related to reactivity available.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : May react violently with oxidants. May react explosively even in the absence of air. Forms explosive acetylides with copper, silver and mercury.
Conditions to avoid : Avoid sparks, heat, open flames and other ignition sources. No smoking. May decompose violently at high temperature and/or pressures or in the presence of a catalyst.
Incompatible materials : Oxidising agents, copper, silver and mercury. Do not use alloys containing more than 70% copper, air, oxidizer. Do not use alloys containing more than 43% silver.
Hazardous decomposition products : May evolve toxic gases if heated to decomposition.

Section 11, Toxicological information

Acute toxicity : Not classified.
Corrosion/irritation : Not classified.
Sensitization : Not classified.
Mutagenicity : Not classified.
Carcinogenicity : Not classified.
Reproductive toxicity : Not classified.
STOT (single exposure) : Not classified.
STOT (repeated exposure) : Over exposure may result in dizziness, weakness, drowsiness, fatigue, breathing difficulty and unconsciousness.
Aspiration hazard : Not classified.

Section 12, Ecological information

Toxicity : No ecological damage caused by this product.
Persistence and degradability : Not available.
Bioaccumulative potential : Not available.
Mobility in soil : Not available.
Other adverse effects : No known effects from this product.

Section 13, Disposal considerations

Disposal : Do not attempt to dispose of residual or unused quantities.
Return container to supplier.

**Section 14, Transport information**

	Land Transport	Sea transport	Air Transport
UN number	UN1001	UN1001	UN1001
UN proper shipping name	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED
Transport hazard class(es)	2.1 	2.1 	2.1 
Packing group	None allocated	None allocated	None allocated
Environmental hazards	No	No	No

Additional information

: Ensure cylinder is separated from driver's compartment. Ensure driver is aware of the potential hazards of product and know what to do in the event of an accident or an emergency. Ensure that cylinders are properly secured and valves are closed.

Section 15, Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture**

: Ensure all local regulations or legislations are observed.

Section 16, Other information

Ensure operator / user understand the flammability hazard of the product. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

R5: Heating may cause an explosion.

R6: Explosive with or without contact with air.

R12: Extremely flammable.

H220: Extremely flammable gas.

H280: Contains gas under pressure; may explode if heated.

S9: Keep container in a well-ventilated place.

S16: Keep away from sources of ignition – No smoking.

S33: Take precautionary measures against static discharges.

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