

SAFETY DATA SHEET

ACETYLENE

Infosafe No.: FMOV9
ISSUED Date : 03/03/2023
ISSUED by: BOC LIMITED (AUSTRALIA)

Section 1 - Identification

Product Identifier

ACETYLENE

Product Code

040

Company Name

BOC LIMITED (AUSTRALIA)

Address10 JULIUS AVENUE NORTH RYDE
NSW 2113 AUSTRALIA**Telephone/Fax Number**

Tel: 131 262, (02) 8874 4400

Emergency Phone Number

1800 653 572 (24/7) (Australia only)

Recommended use of the chemical and restrictions on use

Fuel · Industrial Applications

Other Names

Name	Product Code
ACETYLENE	041
ACETYLENE	001 - SDS NUMBER
ACETYLENE	16110367F - MATERIAL NUMBER
DISSOLVED ACETYLENE	
ETHYNE	

Additional InformationWebsite: <http://www.boc.com.au>

Section 2 - Hazard(s) Identification

GHS classification of the substance/mixture

Flammable gases: Category 1A

Flammable gases: Category 1A - Chemically unstable gas - A

Gases under pressure: Category Dissolved gas

Signal Word (s)

DANGER

Hazard Statement (s)

H220 Extremely flammable gas.

H230 May react explosively even in the absence of air.

H280 Contains gas under pressure; may explode if heated.

Pictogram (s)

Flame, Gas cylinder

**Precautionary Statement – Prevention**

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Precautionary Statement – Response

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

P381 In case of leakage, eliminate all ignition sources.

Precautionary Statement – Storage

P403 Store in a well-ventilated place.

Precautionary Statement – Disposal

Not Applicable

Precautionary Statement – General

Not Applicable

Other Information

Classification of the substance or mixture:

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

Physical Hazards

Flammable Gases: Category 1A

Chemically Unstable Gases: Category A

Gases Under Pressure: Dissolved gas

Health Hazards:

Not classified as a Health Hazard

Environmental Hazards:

Not classified as an Environmental Hazard

Other hazards:

Asphyxiant. Effects are proportional to oxygen displacement.

Section 3 - Composition and Information on Ingredients

Ingredients

Name	CAS	Proportion
acetylene	74- 86- 2	> 98 % v/v

Other Information

Synonyms: 001 - SDS NUMBER · 16110367F - MATERIAL NUMBER · DISSOLVED ACETYLENE · ETHYNE · PRODUCT CODES: 040, 041

Substances / Mixtures:

Ingredient / EC Number

ACETYLENE 200-816-9

Section 4 - First Aid Measures

Inhalation

If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator or Self Contained Breathing Apparatus (SCBA). Be aware of possible explosive atmospheres. Apply artificial respiration if not breathing. Give oxygen if available. For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor.

Ingestion

Ingestion is not considered a potential route of exposure.

Skin

Adverse effects not expected from this product.

Eye

Adverse effects not expected from this product.

First Aid Facilities

None allocated.

Indication of immediate medical attention and special treatment needed if necessary

Treat for asphyxia.

Most important symptoms/effects, acute, delayed and aggravated medical conditions

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.

Section 5 - Firefighting Measures

Suitable Extinguishing Media

Stop flow of gas if safe to do so, such as by slowly closing the cylinder valve. If the gas source cannot be isolated, do not extinguish the flame, since re-ignition and explosion could occur. Await arrival of emergency services or manufacturer's advisor. Drench and cool cylinders with water spray from protected area at a safe distance. If it is absolutely necessary to extinguish the flame, use only a dry chemical powder extinguisher. Do not move cylinders for at least 24 hours. Avoid shock and bumps to cylinders.

Specific Methods

Temperatures in a fire may cause cylinders to rupture and internal pressure relief devices to be activated. Cool cylinders or containers exposed to fire by applying water from a protected location. Do not approach cylinders or containers suspected of being hot. This material is capable of forming explosive mixtures in air. May react explosively even in the absence of air.

Specific hazards arising from the chemical

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

Hazchem Code

2SE

Decomposition Temperature

Not available

Other Information

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.

Section 6 - Accidental Release Measures

Methods and materials for containment and 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.

Environmental Precautions

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

Personal precautions, protective equipment and emergency procedures (Small Spills)

If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation. Eliminate all sources of ignition.

Consider the risk of potentially explosive atmospheres.

Other Information

Reference to other sections:

See Sections 8 and 13 for exposure controls and disposal.

Section 7 - Handling and Storage

Precautions for Safe Handling

Use of safe work practices are recommended to avoid inhalation. Do not drag, drop, slide or roll cylinders. The uncontrolled release of a gas under pressure may cause physical harm. Use a suitable hand truck for cylinder movement. 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.

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.

Additional information on precautions for use

Specific end uses:

No information provided.

Section 8 - Exposure Controls and Personal Protection

Occupational exposure limit values

Control parameters

Exposure standards:

Ingredient / Reference / TWA / STEL

Acetylene SWA [AUS] Asphyxiant

Biological Monitoring

No biological limit values have been entered for this product.

Engineering Controls

Provide suitable ventilation to minimise or eliminate exposure. Confined areas (e.g. tanks) should be adequately ventilated or gas tested. Flammable/explosive vapours may accumulate in poorly ventilated areas.

Respiratory Protection

If using product in a confined area, wear an Air-line respirator.

Eye and Face Protection

Wear safety glasses.

Hand Protection

Wear leather or cotton gloves.

Body Protection

Wear coveralls and safety boots.

Section 9 - Physical and Chemical Properties

Properties	Description	Properties	Description
Form	Gas	Appearance	Colourless gas
Odour	Garlic-like odour	Melting Point	Not available
Boiling Point	-84°C	Decomposition Temperature	Not available
Solubility in Water	Soluble	pH	Not applicable
Vapour Pressure	4700 kPa @ 25°C	Relative Vapour Density (Air=1)	0.906
Evaporation Rate	Not applicable	Odour Threshold	Not available
Viscosity	Not available	Volatile Component	100 %
Partition Coefficient: n-octanol/water (log value)	Not available	Flash Point	<23°C
Flammability	Extremely flammable	Auto-Ignition Temperature	305°C
Explosion Limit - Upper	100 %	Explosion Limit - Lower	2.3 %
Explosion Properties	Not available	Oxidising Properties	Not available
Relative Density	Not applicable		

Other Information

Critical pressure: 6,242 kPa
Critical temperature: 36.3°C (dissolved in acetone and porous medium)
Cylinder pressure (when full): 1550 kPa @ 15°C

Section 10 - Stability and Reactivity

Reactivity

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

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.

Possibility of hazardous reactions

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

Conditions to Avoid

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

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. Hazardous by-products may be produced when this gas/gas mixture is used in welding, cutting and associated processes.

Hazardous Decomposition Products

May evolve toxic gases if heated to decomposition.

Section 11 - Toxicological Information

Toxicology Information

Acute toxicity: Based on available data, the classification criteria are not met.

Skin Corrosion/Irritation

Not classified as a skin irritant.

Serious Eye Damage/Irritation

Not classified as an eye irritant.

Respiratory Sensitisation

Not classified as causing skin or respiratory sensitisation.

Skin Sensitisation

Not classified as causing skin or respiratory sensitisation.

Carcinogenicity

Not classified as a carcinogen.

Reproductive Toxicity

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 Hazard

Not classified as causing aspiration.

Mutagenicity

Not classified as a mutagen.

Section 12 - Ecological Information

Ecotoxicity

No ecological damage is expected to be caused by this product.

Persistence and degradability

No information provided.

Mobility

Mobility in soil:

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

Bioaccumulative Potential

This product is not expected to bioaccumulate.

Other Adverse Effects

No known effects from this product. Fume from fabrication processes which use this gas/gas mixture may be harmful to the environment.

Section 13 - Disposal Considerations

Waste Disposal

Cylinders should be returned to the manufacturer or supplier for disposal of contents.

Local Legislation

Dispose of in accordance with relevant local legislation.

Section 14 - Transport Information

ADG U.N. Number

1001

ADG Proper Shipping Name

ACETYLENE, DISSOLVED

ADG Transport Hazard Class

2.1

ADG Packing Group

None allocated.

Hazchem Code

2SE

IERG Number

04DP

Special Precautions for User

GTEPG: 2A1

EmS: F _ _ D _ , S _ _ U _

IATA UN Number

1001

IATA Proper Shipping Name

ACETYLENE, DISSOLVED

IATA Transport Hazard Class

2.1

IMDG UN Number

1001

IMDG Proper Shipping Name

ACETYLENE, DISSOLVED

IMDG Transport Hazard Class

2.1

Environmental Hazards

No information provided.

Additional Information

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

LAND TRANSPORT (ADG)

UN number: 1001

Proper shipping name: ACETYLENE, DISSOLVED

Transport hazard class: 2.1

Packing group: None allocated.

SEA TRANSPORT (IMDG / IMO)

UN number: 1001

Proper shipping name: ACETYLENE, DISSOLVED

Transport hazard class: 2.1

Packing group: None allocated.

AIR TRANSPORT (IATA / ICAO)

UN number: 1001

Proper shipping name: ACETYLENE, DISSOLVED

Transport hazard class: 2.1

Packing group: None allocated.

Refer to Commonwealth, State and Territory Dangerous Goods Legislation which contain requirements which affect gas storage and transport. Special transport precautions: Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.

Before transporting product containers:

Ensure there is adequate ventilation.

Ensure that containers are firmly secured.

Ensure cylinder valve is closed and not leaking.

Ensure valve outlet cap nut or plug (where provided) is correctly fitted.

Ensure valve protection device (where provided) is correctly fitted.

Section 15 - Regulatory Information

Regulatory Information

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: Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

Poisons Schedule

Not Scheduled

Australia (AICS/AIIC)

All components are listed on AIIC, or are exempt.

Global Inventory Status

Section 16 - Any Other Relevant Information

Signature of Preparer/Data Service

Prepared by:

Risk Management Technologies

5 Ventnor Ave, West Perth

Western Australia 6005

Phone: +61 8 9322 1711

Fax: +61 8 9322 1794

Email: info@rmt.com.au

Web: www.rmtglobal.com

Other Information

Revision No: 3.3

The storage of significant quantities of gas cylinders must comply with AS4332 The storage and handling of gases in cylinders.

When using this gas/gas mixture for welding, cutting and associated processes, additional hazards may be generated by the process such as radiation, noise and fume. Risk assessments should be made for each activity to identify and quantify the individual hazards involved. Please refer to the relevant Safety Data Sheets for the welding consumables being used or, if available, the materials being welded.

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.

Abbreviations

ACGIH: American Conference of Governmental Industrial Hygienists

CAS #: Chemical Abstract Service number - used to uniquely identify chemical compounds

CNS: Central Nervous System

EC No.: EC No - European Community Number

EMS: Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)

GHS: Globally Harmonized System

GTEPG: Group Text Emergency Procedure Guide

IARC: International Agency for Research on Cancer

LC50: Lethal Concentration, 50% / Median Lethal Concentration

LD50: Lethal Dose, 50% / Median Lethal Dose

mg/m³: Milligrams per Cubic Metre

OEL: Occupational Exposure Limit

pH: relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).

ppm: Parts Per Million

STEL: Short-Term Exposure Limit

STOT-RE: Specific target organ toxicity (repeated exposure)

STOT-SE: Specific target organ toxicity (single exposure)

SUSMP: Standard for the Uniform Scheduling of Medicines and Poisons

SWA: Safe Work Australia

TLV: Threshold Limit Value

TWA: Time Weighted Average

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END OF SDS

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Product Name: ACETYLENE
Issue Date: 03/03/2023