

SAFETY DATA SHEET

ACETYLENE

Infosafe No.: FMOV9
ISSUED Date: 20/03/2015
Issued by: BOC LIMITED (AUSTRALIA)

1. IDENTIFICATION

GHS Product Identifier

ACETYLENE

Product Code

040, 041

Company Name

BOC LIMITED (AUSTRALIA) (ABN 95 000 029 729)

Address

10 Julius Avenue North Ryde
NSW 2113 Australia

Telephone/Fax Number

Tel: +61 131 262, (02) 8874 4400

Fax: +61 132 427 (24 hours)

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
DISSOLVED ACETYLENE	
ETHYNE	

Additional Information

Website: <http://www.boc.com.au>

2. HAZARD IDENTIFICATION

GHS classification of the substance/mixture

Flammable Gases: Category 1

Gases under Pressure: Dissolved Gas

Signal Word (s)

DANGER

Hazard Statement (s)

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

Pictogram (s)

Flame, Gas cylinder



Precautionary statement – Prevention

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

Precautionary statement – Response

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

P381 Eliminate all ignition sources if safe to do so.

Precautionary statement – Storage

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

Other Information

Classification of the substance or mixture:

CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

Other hazards:

Asphyxiant. Effects are proportional to oxygen displacement.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

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

Other Information

Synonym(s): 1821 - SDS NUMBER · PRODUCT CODES: 285, 288 · SPECIAL GAS MIXTURE

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 Poison 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 contact

Adverse effects not expected from this product.

First Aid Facilities

No information provided.

Indication of immediate medical attention and special treatment needed if necessary

Treat for asphyxia.

Most important symptoms/effects, 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.

5. FIRE-FIGHTING 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.

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.

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.

Personal Precautions

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.

Environmental Precautions

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

Other Information

Reference to other sections:

See Sections 8 - Exposure controls/personal protection and 13 - Disposal considerations for exposure controls and disposal.

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 45°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.

Other Information

Specific end use(s):

No information provided.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limit values

No Exposure Limit Established

Biological Limit Values

No biological limit values have been entered for this product.

Appropriate 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 Protection

Wear safety glasses.

Hand Protection

Wear leather or cotton gloves.

Body Protection

Wear coveralls and safety boots.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form

Gas

Appearance

Colourless gas

Odour

Garlic-like odour

Decomposition Temperature

Not available

Melting Point

Not available

Boiling Point

-84°C

Solubility in Water

Soluble

Specific Gravity

Not applicable

pH

Not applicable

Vapour Pressure

4700 kPa @ 25°C

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

Not available

Flash Point

< 23°C

Flammability

Extremely flammable

Auto-Ignition Temperature

305°C

Explosion Limit - Upper

80 % to 85 %

Explosion Limit - Lower

2.5 %

Explosion Properties

Not available

Oxidising Properties

Not available

Other Information

Critical temperature: 36.3°C (dissolved in acetone and porous medium)

Cylinder pressure (when full): 1550 kPa @ 15°C

Critical pressure: 6,242 kPa

10. STABILITY AND REACTIVITY

Reactivity

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

Chemical Stability

Stable under recommended conditions of storage. However, sensitive to heat or shock and may become explosive.

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.

Possibility of hazardous reactions

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

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.

Mutagenicity

Not classified as a mutagen.

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 effects from repeated exposure.

Aspiration Hazard

Not classified as causing aspiration.

12. ECOLOGICAL INFORMATION

Ecotoxicity

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

Persistence and degradability

This product is not readily biodegradable.

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 information provided.

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.

14. TRANSPORT INFORMATION

Transport 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

Ensure cylinder is separated from driver and that outlet of relief device is not obstructed.

U.N. Number

1001

UN proper shipping name

ACETYLENE, DISSOLVED

Transport hazard class(es)

2.1

Hazchem Code

2SE

Special Precautions for User

GTEPG: 2A1

EMS: F-D, S-U

IERG Number

04DP

Environmental Hazards

No information provided

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: 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; Explosive

F+; Extremely flammable

Risk phrases:

R5 Heating may cause an explosion.

R6 Explosive with or without contact with air.

R12 Extremely Flammable.

Safety phrases:

S9 Keep container in a well ventilated place.

S16 Keep away from sources of ignition - No smoking.

S33 Take precautionary measures against static discharges.

Poisons Schedule

N/A

Australia (AICS)

All components are listed on AICS, or are exempt.

16. OTHER 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.rmt.com.au.

Other Information

001

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 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: 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 ChemAlert 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

Version No: 2.9

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END OF SDS

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