

SAFETY DATA SHEET

ACETYLENE (DISSOLVED)

Infosafe No.: HY3XZ
ISSUED Date: 10/11/2015
Issued by: AIR LIQUIDE AUSTRALIA LIMITED

1. IDENTIFICATION

GHS Product Identifier

ACETYLENE (DISSOLVED)

Product Code

AL061

Company Name

AIR LIQUIDE AUSTRALIA LIMITED (ABN 57 004 385 782)

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VIC 3004 Australia

Telephone/Fax Number

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Emergency phone number

1800 812588 (24hr)

E-mail Address

www.airliquide.com.au; ALAEquiries@AirLiquide.com

Recommended use of the chemical and restrictions on use

Industrial and professional. Perform risk assessment prior to use.

Test gas/Calibration gas.

Laboratory use.

Contact supplier for more information on uses.

Uses advised against: Consumer use.

2. HAZARD IDENTIFICATION

GHS classification of the substance/mixture

Flammable Gases: Category 1

Gases under Pressure: Liquefied 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, 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 Eliminate all ignition sources if safe to do so.

Precautionary statement – Storage

P403 Store in a well-ventilated place.

Other Information

Classification according to Regulation (EC) No. 1272/2008 [CLP]:

Physical hazards:

Flammable gases, Category 1 H220

Gases under pressure: Liquefied gas H280

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]:

F+; R12

Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP): GHS02 GHS04

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Name	CAS	Proportion
Acetylene (dissolved)	74-86-2	<=100 %

Other Information

Substance: Not applicable

Mixture

Name: Acetylene (dissolved)

Product identifier:

(EC index no) 601-015-00-0

(REACH-no) 01-2119457406-36

Classification according to Regulation (EC) No. 1272/2008 [CLP]:

Flam. Gas 1, H220

Chem. Unst. Gas A, H230

Press. Gas (Diss.), H280

4. FIRST-AID MEASURES

Inhalation

Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

Ingestion

Ingestion is not considered a potential route of exposure.

Skin

For liquid spillage - flush with water for at least 15 minutes.

Eye contact

Immediately flush eyes thoroughly with water for at least 15 minutes.

Indication of immediate medical attention and special treatment needed if necessary

None.

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.

Refer to section 11 - Toxicological Information.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water spray or fog.

Unsuitable Extinguishing Media

Carbon dioxide.

Do not use water jet to extinguish.

Hazards from Combustion Products

Incomplete combustion may form carbon monoxide.

Specific Methods

Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems.

If possible, stop flow of product.

Use water spray or fog to knock down fire fumes if possible.

Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive reignition may occur. Extinguish any other fire.

Move containers away from the fire area if this can be done without risk.

Special protective equipment for fire fighters: In confined space use self-contained breathing apparatus.

Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.

Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.

Standard EN 469 - Protective clothing for firefighters. Standard - EN 659: Protective gloves for firefighters.

Specific Hazards Arising From The Chemical

Exposure to fire may cause containers to rupture/explode.

Hazchem Code

2YE

6. ACCIDENTAL RELEASE MEASURES

Methods And Materials For Containment And Cleaning Up

Ventilate area.

Personal Precautions

Try to stop release.

Evacuate area.

Consider the risk of potentially explosive atmospheres.

Eliminate ignition sources.

Ensure adequate air ventilation.

Act in accordance with local emergency plan.

Stay upwind.

Environmental Precautions

Try to stop release.

Other Information

Reference to other sections:

See also sections 8 - Exposure controls/personal protection and 13 - Disposal considerations.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Safe use of the product: The substance must be handled in accordance with good industrial hygiene and safety procedures. Only experienced and properly instructed persons should handle gases under pressure. Consider pressure relief device(s) in gas installations. Ensure the complete gas system was (or is regularly) checked for leaks before use. Do not smoke while handling product. Protect eyes, face and skin from liquid splashes. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Assess the risk of potentially explosive atmospheres and the need for explosion-proof equipment. Purge air from system before introducing gas. Take precautionary measures against static discharge. Keep away from ignition sources (including static discharges). Consider the use of only non-sparking tools. Do not breathe gas. Avoid release of product into atmosphere.

Safe handling of the gas receptacle: Refer to supplier's container handling instructions.

Do not allow backfeed into the container.

Protect cylinders from physical damage; do not drag, roll, slide or drop.

When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders.

Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use.

If user experiences any difficulty operating cylinder valve discontinue use and contact supplier.

Never attempt to repair or modify container valves or safety relief devices.

Damaged valves should be reported immediately to the supplier.

Keep container valve outlets clean and free from contaminants particularly oil and water.

Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment.

Close container valve after each use and when empty, even if still connected to equipment.

Never attempt to transfer gases from one cylinder/container to another.

Never use direct flame or electrical heating devices to raise the pressure of a container.

Do not remove or deface labels provided by the supplier for the identification of the cylinder contents.

Containers should be stored in the vertical position and properly secured to prevent them from falling over.

Conditions for safe storage, including any incompatibilities

Observe all regulations and local requirements regarding storage of containers.

Containers should not be stored in conditions likely to encourage corrosion.

Container valve guards or caps should be in place.

Containers should be stored in the vertical position and properly secured to prevent them from falling over.

Stored containers should be periodically checked for general condition and leakage.

Keep container below 50°C in a well ventilated place.

Store containers in location free from fire risk and away from sources of heat and ignition.

Keep away from combustible materials.

Segregate from oxidant gases and other oxidants in store.

All electrical equipment in the storage areas should be compatible with the risk of a potentially explosive atmosphere.

Other Information

Specific end use(s): None.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limit values

OEL (Occupational Exposure Limits): No data available.

Acetylene (dissolved) (74-86-2)

DNEL: Derived no effect level (Workers)

Acute - systemic effects, inhalation: 2675 mg/m³

2500 ppm

Long-term - systemic effects, inhalation: 2675 mg/m³

2500 ppm

Appropriate Engineering Controls

Provide adequate general and local exhaust ventilation.

Systems under pressure should be regularly checked for leakages.

Ensure exposure is below occupational exposure limits (where available).

Keep concentrations well below lower explosion limits.

Gas detectors should be used when flammable gases/vapours may be released.

Consider work permit system e.g. for maintenance activities.

Environmental exposure controls: Refer to local regulations for restriction of emissions to the atmosphere. See section 13 - Disposal considerations for specific methods for waste gas treatment.

Respiratory Protection

Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres.

Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.

Eye Protection

Wear safety glasses with side shields.

Wear goggles and a face shield when transfilling or breaking transfer connections.

Standard EN 166 - Personal eye-protection.

Hand Protection

Wear working gloves when handling gas containers.

Standard EN 388 - Protective gloves against mechanical risk.

Personal Protective Equipment

A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk. The following recommendations should be considered:

PPE compliant to the recommended EN/ISO standards should be selected.

Thermal Hazards

Wear cold insulating gloves when transfilling or breaking transfer connections.

Standard EN 511 - Cold insulating gloves.

Body Protection

Consider the use of flame resistant anti-static safety clothing.

Standard EN ISO 14116 - Limited flame spread materials.

Standard EN ISO 1149-5 - Protective clothing: Electrostatic properties.

Wear safety shoes while handling containers.

Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form

Gas

Colour

Mixture contains one or more component(s) which have the following colour(s):

Colourless.

Odour

There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure.

Mixture contains one or more component(s) which have the following odour(s):

Garlic like.

Melting Point

Not applicable for gas-mixtures.

Boiling Point

Not applicable for gas-mixtures.

Solubility in Water

Solubility in water of component(s) of the mixture:

Acetylene (dissolved): 1185 mg/l

pH

Not applicable for gas-mixtures.

Vapour Pressure

No reliable data available. [20°C]

No reliable data available. [50°C]

Evaporation Rate

Not applicable for gas-mixtures. (ether=1)

Physical State

Gas at 20°C / 101.3kPa.

Odour Threshold

Odour threshold is subjective and inadequate to warn of overexposure.

Viscosity

Not applicable. [20°C]

Partition Coefficient: n-octanol/water

Not applicable for gas-mixtures.

Flash Point

Not applicable for gas-mixtures.

Flammability

Flammability range not available.

Auto-Ignition Temperature

Not known.

Explosion Properties

Not applicable.

Oxidising Properties

Not applicable.

Relative density

Gas: Lighter or similar to air. (air=1)

Other Information

Molar mass: Not applicable for gas-mixtures.

10. STABILITY AND REACTIVITY

Reactivity

No reactivity hazard other than the effects described in sub-sections below.

Chemical Stability

Stable under normal conditions.

Conditions to Avoid

Acetylene should not be used at pressures above 1.5 bar (g).

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

Incompatible materials

Avoid copper and silver if acetylene is present.

Hazardous Decomposition Products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Possibility of hazardous reactions

Acetylene should not be used at pressures above 1.5 bar (g).

May decompose violently at high temperature and/or pressure or in the presence of a catalyst.

When heated to decomposition, emits acid fumes and may be explosive.

Can form explosive mixture with air.

May react violently with oxidants.

11. TOXICOLOGICAL INFORMATION

Toxicology Information

Acute toxicity: No toxicological effects from this product.

Skin corrosion/irritation

No known effects from this product.

Serious eye damage/irritation

No known effects from this product.

Respiratory sensitisation

No known effects from this product.

Germ cell mutagenicity

No known effects from this product.

Carcinogenicity

No known effects from this product.

Reproductive Toxicity

Fertility: No known effects from this product.

Unborn child: No known effects from this product.

STOT-single exposure

No known effects from this product.

STOT-repeated exposure

No known effects from this product.

Aspiration Hazard

Not applicable for gases and gas mixtures.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Assessment: Classification criteria are not met.

Acetylene (dissolved) (74-86-2)

EC50 48h - Daphnia magna [mg/l]: 242 mg/l

EC50 72h - Algae [mg/l]: 57 mg/l

LC50 96 h - Fish [mg/l]: 545 mg/l

Persistence and degradability

Assessment: No data available.

Mobility

Assessment: No data available.

Bioaccumulative Potential

Assessment: No data available.

Other Adverse Effects

Effect on the ozone layer: None.

Effect on global warming: No known effects from this product.

Acute Toxicity - Fish

LC50 96 h - Fish [mg/l]: No data available.

Acute Toxicity - Daphnia

EC50 48h - Daphnia magna [mg/l]: No data available.

Acute Toxicity - Algae

EC50 72h - Algae [mg/l]: No data available.

Other Information

Results of PBT and vPvB assessment

Assessment: Not classified as PBT or vPvB.

13. DISPOSAL CONSIDERATIONS

Waste Disposal

Contact supplier if guidance is required.

Do not discharge into areas where there is a risk of forming an explosive mixture with air.

Waste gas should be flared through a suitable burner with flash back arrestor.

Do not discharge into any place where its accumulation could be dangerous.

Ensure that the emission levels from local regulations or operating permits are not exceeded.

Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at <http://www.eiga.org> for more guidance on suitable disposal methods.

List of hazardous waste codes (from Commission Decision 2001/118/EC): 16 05 04: Gases in pressure containers (including halons) containing dangerous substances.

14. TRANSPORT INFORMATION

Transport Information

UN proper shipping name

Transport by road/rail (ADR/RID): HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (Acetylene (dissolved))

Transport by air (ICAO-TI / IATA-DGR): Hydrocarbon gas mixture, liquefied, n.o.s. (Acetylene (dissolved))

Transport by sea (IMDG): HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (Acetylene (dissolved))

Transport hazard class(es)

Labelling: 2.1: Flammable gases

Transport by road/rail (ADR/RID)

Class: 2

Classification code: 2F

Hazard identification number: 23

Tunnel Restriction: B/D - Tank carriage: Passage forbidden through tunnels of category B, C, D and E. Other carriage : Passage forbidden through tunnels of category D and E

Transport by air (ICAO-TI / IATA-DGR)

Class / Div. (Sub. risk(s)): 2.1

Transport by sea (IMDG)

Class / Div. (Sub. risk(s)): 2.1

Emergency Schedule (EmS) - Fire: F-D

Emergency Schedule (EmS) - Spillage: S-U

Packing group

Transport by road/rail (ADR/RID): Not applicable

Transport by air (ICAO-TI / IATA-DGR): Not applicable

Transport by sea (IMDG): Not applicable

Environmental hazards

Transport by road/rail (ADR/RID): None.

Transport by air (ICAO-TI / IATA-DGR): None.

Transport by sea (IMDG): None.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:

Not applicable.

U.N. Number

1965

UN proper shipping name

HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S.(Acetylene (dissolved))

Transport hazard class(es)

2.1

Hazchem Code

2YE

Special Precautions for User

Packing Instruction(s)

Transport by road/rail (ADR/RID): P200

Transport by air (ICAO-TI / IATA-DGR)

Passenger and Cargo Aircraft: Forbidden

Cargo Aircraft only: 200

Transport by sea (IMDG): P200

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.

IERG Number

04

15. REGULATORY INFORMATION

Regulatory information

EU-Regulations

Seveso directive 96/82/EC: Covered.

National regulations

National legislation: Ensure all national/local regulations are observed.

Chemical safety assessment: A CSA does not need to be carried out for this product.

16. OTHER INFORMATION

Revisions Highlighted

Indication of changes: Revised safety data sheet in accordance with commission regulation (EU) No 453/2010.

Other Information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 453/2010

Version: 4.0

SDS no: AL061

Training advice: Ensure operators understand the flammability hazard. Receptacle under pressure.

Further information: This Safety Data Sheet has been established in accordance with the applicable European Union legislation. Classification in accordance with calculation methods of regulation (EC) 1272/2008 CLP / (EC) 1999/45 DPD.

Full text of R-, H- and EUH-statements

Chem. Unst. Gas A: Chemically Unstable gases, Category A

Flam. Gas 1: Flammable gases, Category 1

Press. Gas (Diss.): Gases under pressure : Dissolved gas

Press. Gas (Liq.): Gases under pressure : Liquefied gas

H220 Extremely flammable gas

H230 May react explosively even in the absence of air

H280 Contains gas under pressure; may explode if heated

R12 Extremely flammable

R5 Heating may cause an explosion

R6 Explosive with or without contact with air

F+: Extremely flammable

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END OF SDS

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