DANGER





SECTION 1 : IDENTIFICATION

Product identifier
Trade name : Acetylene (Dissolved)
SDS no : QSE-PD03
Chemical description : Acetylene (Dissolved)
Chemical formula : C2H2

Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses :

- Industrial and professional.
- Perform risk assessment prior to use.
- Test gas/Calibration gas. Laboratory use.
- Chemical reaction / Synthesis.
- Use as a fuel.
- Fuel gas for welding, cutting, heating, brazing and soldering applications.
- Contact supplier for more information on uses

Details of the supplier of the safety data sheet
Company identification : Société d'oxygène et d'acétylène du Liban S.A.L.
Chekka (North Lebanon), Industrial Area, SOAL Building, Al Sahl Street
Dekwaneh (Mount Lebanon), Industrial Area, SOAL Building , Al Midane Street
customer.care@soal.com.lb
www.soal.com.lb

Emergency telephone number
Emergency telephone number :+961 76 111 900 // +961 26 543 381-7,9 // +961 01 692 380-5

SECTION 2 : HAZARDS IDENTIFICATION

Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP]
Physical hazards:

- Flammable gases, Category 1 H220
- Chemically Unstable gases, Category A H230
- Gases under pressure : Dissolved gas H280

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]
F+; R12

Label elements

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

Hazard pictograms (CLP) :



GHS02



GHS04

Signal word (CLP) : Danger

Hazard statements (CLP) : H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated.
H230 - May react explosively even in the absence of air.

Precautionary statements (CLP)

- 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.
- Response : P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
  P381 - Eliminate all ignition sources if safe to do so.
- Storage : P403 - Store in a well-ventilated place.
  P410+P403 - Protect from sunlight. Store in a well-ventilated place.

Other hazards: None

SECTION 3: COMPOSITION/ INFORMATION OR INGREDIENTS

Name	Product Identifier	%	Classification according to Directive 67/548/EEC	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Acetylene	(CAS No) 74-86-2 (EC no) 200-816-9 (EC index no) 601-015-00-0 (Registration-No.) 01-2119457406-36	100	F+; R12	Flam. Gas 1, H220 Chem. Unst. Gas A, H230 Press. Gas (Diss.), H280

The cylinder contains a porous material which in some cases contains asbestos fibres. The asbestos fibres are encapsulated in the solid porous material and are not released under normal conditions of use. See section 13 for the disposal of those cylinders. Dimethylformamide is on the Candidate List of Substances of Very High Concern (SVHC) that might be subject to authorization for future placing on the market and uses. For safety reasons, the acetylene is dissolved in acetone (Flam. Liq. 2, Eye Irrit. 2, STOT SE 3) or dimethylformamide (Flam.Liq.3, Repr. 1B, Acute Tox. 4, Eye Irrit. 2) in the gas receptacle. Vapour of the solvent is carried away as impurity when the acetylene is extracted from the gas receptacle. The concentration of the solvent vapour in the gas is lower than the concentration limits to change the classification of the acetylene. Contains no other components or impurities which will influence the classification of the product.
Full text of R-phrases see section 16. Full text of H-statements see section 16.

SECTION 4: FIRST AID MEASURES

Description of necessary first aid measures

- Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in a recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion: As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Inhalation : No known significant effects or critical hazards.
- Ingestion : As this product is a gas, refer to the inhalation section.
- Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.
- Frostbite : Try to warm up the frozen tissues and seek medical attention.
- Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Over-exposure signs/symptoms

- Skin contact: No specific data
- Ingestion: No specific data
- Inhalation No specific data
- Eye contact : No specific data

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician :Treat symptomatically. Contact poison treatment specialists immediately if large quantities have been ingested or inhaled.
- Specific treatments : No specific treatment
- Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

- Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

- Unsuitable extinguishing media: None known
- Specific hazards arising from the chemical: Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
- Hazardous thermal decomposition products: Decomposition products may include the following materials: carbon dioxide and carbon monoxide.
- Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact the supplier immediately for specialist advice. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from the area and allow fire to burn. Fight fire from a protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.
- Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- **Personal precautions :**
  - Try to stop release.
  - Evacuate area.
  - Consider the risk of potentially explosive atmospheres.
  - Wear self-contained breathing apparatus when entering an area unless the atmosphere is proved to be safe.
  - Eliminate ignition sources.
  - Ensure adequate air ventilation.
  - Act in accordance with the local emergency plan. Stay upwind.

- **Environmental Precautions :**
  - Try to stop release

- **Clean up methods :**
  - Ventilate area
  - See also sections 8 and 13

SECTION 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 products.

- Use only properly specified equipment which is suitable for this product, its supply pressure and temperature.
- Contact your gas supplier if in doubt.
- Avoid sucking back water, acid and alkalis. Assess the risk of potentially explosive atmospheres and the need for explosion-proof equipment.
- Purge air from the 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.
- Avoid contact with pure copper, mercury, silver and brass with greater than 65% copper.
- Do not use alloys containing more than 43% silver.
- Operating pressure in piping should be limited to 1.5 bar (gauge) or less due to more stringent national regulations (with maximum diameter DN25).
- Consider the use of flash back arrestors.
- Solvent may accumulate in piping systems.
- For maintenance activities use appropriate resistant gloves, assess the necessity to use a respiratory filter device (specify gloves and filters for DMF or acetone use) and wear safety goggles.
- Avoid breathing the vapour of the solvent.
- Provide adequate ventilation. For further information on safe use refer to EIGA code of practice acetylene (EIGA Doc 123).
- Do not breathe gas. Avoid releasing products into the 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 the user experiences any difficulty operating the cylinder valve, discontinue use and contact the 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 the 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
- **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 the container below 50°C in a well ventilated place.
- Store containers in locations 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

- **Specific end use(s)** : None.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

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

PNEC (Predicted No-Effect Concentration) : No data available

- **Appropriate engineering controls:**
  - Provide adequate general and local exhaust ventilation.
  - Systems under pressure should be regularly checked for leakages.
  - Gas detectors should be used when flammable gases/vapours may be released.
  - The substance is not classified for human health hazards or for environmental effects and it is not PBT or vPvB so that no exposure assessment or risk characterisation is required.
  - For tasks where the intervention of workers is required, the substance must be handled in accordance with good industrial hygiene and safety procedures.
  - Consider a work permit system e.g. for maintenance activities.

- **Individual protection measures, e.g. 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: Wear goggles with suitable filter lenses when use is cutting/welding.
  - PPE compliant to the recommended EN/ISO standards should be selected.

★ Eye/face protection : Wear safety glasses with side shields (Standard EN 166 - Personal eye-protection)

★ Skin protection
- Hand protection : Wear working gloves when handling gas containers (Standard EN 388 - Protective gloves against mechanical risk)

- Other : 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.

★ Respiratory protection : None necessary
★ Thermal hazards : None necessary

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

- Appearance
  - Physical state at 20°C / 101.3kPa : Gas
  - Color : Colorless
- Odor : Garlic like. Poor warning properties at low concentrations.
- Odor threshold :Odour threshold is subjective and inadequate to warn of overexposure.
- pH value : Not applicable
- Molar mass : 26 g/mol
- Melting point : -80.8 °C
- Boiling point : -84 °C
- Flash point : Not applicable for gases and gas mixtures
- Critical temperature [°C] : 35 °C
- Evaporation rate (ether=1) : Not applicable for gases and gas mixtures
- Flammability range : 2.3 - 100 vol %
- Vapor pressure [20°C] : 44 bar(a)
- Vapor pressure [50°C] : Not applicable
- Relative density, gas (air=1) : 0.907
- Relative density, liquid (water=1) : Not applicable
- Solubility in water : 1185 mg/l
- Partition coefficient n-octanol/water [log Kow] : 0.37
- Auto-ignition temperature : 305°C
- Decomposition point [°C]: 635°C
- Viscosity [20°C] : Not applicable
- Explosive Properties : Not applicable
- Oxidizing Properties : None

Other information

- **Other data** : None.

SECTION 10: STABILITY AND REACTIVITY

- Reactivity: No reactivity hazard other than the effects described in sub-sections below
- Chemical stability: Dissolved in a solvent supported in a porous mass.
Stable under recommended handling and storage conditions (see section 7).

- Possibility of hazardous reactions: May react violently with oxidants.
  Can form explosive mixture with air.
  May react explosively even in the absence of air.
  May decompose violently at high temperature and/or pressure or in the presence of a catalyst.
- Conditions to avoid: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
  High temperature.
  High pressure.
- Incompatible materials:
  - Forms explosive acetylides with copper, silver and mercury.
  - Do not use alloys containing more than 65% copper.
  - Air, Oxidiser. Do not use alloys containing more than 43% silver.
  - For additional information on compatibility refer to ISO 11114.
- Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11:TOXICOLOGICAL INFORMATION

Acute toxicity :

Classification criteria are not met.

- Acetylene has low inhalation toxicity, the LOAEC for mild intoxication in humans with no residual effects is 100 000ppm (107,000 mg/m3).
- There is no data on oral and dermal toxicity (studies are not technically feasible as the substance is a gas at room temperature.

Skin corrosion/irritation : No known effects from this product.
Serious eye damage/irritation : No known effects from this product.
Respiratory or skin sensitisation : No known effects from this product.
Germ cell mutagenicity : No known effects from this product.
Carcinogenicity : No known effects from this product. Toxic for reproduction : Fertility : No known effects from this product.
Toxic for reproduction : 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

SECTION 12:ECOLOGICAL INFORMATION

Toxicity

Assessment : Classification criteria are not met.
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 : Will rapidly degrade by indirect photolysis in air.
Will not undergo hydrolysis.

Bioaccumulative potential
Assessment : Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.
Mobility in soil
Assessment : Because of its high volatility, the product is unlikely to cause ground or water pollution.
Results of PBT and vPvB assessment
Assessment : Not classified as PBT or vPvB.
Other adverse effects
Effect on ozone layer : No known effects from this product.
Effect on global warming : No known effects from this product.

SECTION 13:DISPOSAL CONSIDERATIONS

Waste treatment methods
Avoid discharge to the atmosphere.
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.
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.
Additional information
Dispose of cylinder via gas supplier only. Cylinder contains a porous material which in some cases contains asbestos fibers and is saturated with a solvent (acetone or dimethylformamide).

SECTION 14:TRANSPORT INFORMATIONS

UN number
UN-No. : 1001

UN proper shipping name
Transport by road/rail (ADR/RID) : ACETYLENE DISSOLVED
Transport by air (ICAO-TI / IATA-DGR) : ACETYLENE DISSOLVED
Transport by sea (IMDG) : ACETYLENE DISSOLVED

Transport hazard class(es)
Labeling:



2.1 : Flammable Gas

Transport by road/rail (ADR/RID)

Class : 2
Classification code : 4F
Hazard identification number : 439
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.

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 drivers are aware of the potential hazards of the load and know 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 the cylinder valve is closed and not leaking.
  - Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
  - Ensure the valve protection device (where provided) is correctly fitted.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not applicable

SECTION 15: REGULATORY INFORMATION

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

EU-Regulations

Restrictions on use : None.

Seveso directive 96/82/EC : Listed.

National regulations

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

Water hazard class (WGK) : -

Kenn-Nr. : 1182

Chemical safety assessment : Refer to section 8.2.

A CSA has been carried out.

An exposure assessment does not need to be carried out for this product.

SECTION 16: OTHER INFORMATION

NFPA Acetylene



