WARNING



SECTION 1 : IDENTIFICATION

Product identifier
Trade name : Carbon Dioxide
SDS no : QSE-PD05
Chemical description : Carbon Dioxide
Chemical formula : CO2

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

- Industrial and professional. Perform risk assessment prior touse.
- Test gas/Calibration gas.
- Purge gas, diluting gas, inerting gas.
- Purging.
- Laboratory use.
- Use for manufacture of electronic/photovoltaic components.
- Shield gas for welding processes.
- 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:

- Gases under pressure : Gases under pressure H280

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]
Not classified as a dangerous substance / mixture.

Label elements

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

Hazard pictograms (CLP) :



Signal word (CLP) : Warning

Hazard statements (CLP) : H280 - Contains gas under pressure; may explode if heated.

Precautionary statements (CLP)

- Prevention : P282 - Wear cold insulating gloves, face shield, eye protection.
- Response : P315 - Get immediate medical advice/attention..
- Storage : P410 - Protect from sunlight.

Other hazards: Asphyxiant in high concentrations.

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]
Nitrogen	(CAS No) 124-38-9 (EC no) 204-696-9 (EC index no) ---	100	Not classified	Press. Gas (Comp.), H280 Press. Gas (Ref. Liq.), H281

Contains no other components or impurities which will influence the classification of the product.

SECTION 4: FIRST AID MEASURES

Description of necessary first aid measures

- Eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes.
- Inhalation: Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep the victim warm and rested. Call a doctor. Apply artificial respiration if breathing stops.
- Skin contact: In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.
- Ingestion: : Ingestion is not considered a potential route of exposure.

Most important symptoms/effects, acute and delayed

- High concentrations may cause asphyxiation.
- Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation.
- Low concentrations of CO2 cause increased respiration and headache.

Indication of immediate medical attention and special treatment needed, if necessary: None

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. In a fire or if heated, a pressure increase will occur and the container may burst or explode..
- 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.
- 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.
  - Wear self-contained breathing apparatus when entering an area unless the atmosphere is proved to be safe.
  - Use protective clothing.
  - Ensure adequate air ventilation.
  - Prevent from entering sewers, basements , or any place where its accumulation can be dangerous.
  - Act in accordance with the local emergency plan.
  - Stay upwind.

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

- **Clean up methods :**
  - Ventilate area

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.
  - Do not breathe gas.
  - Avoid releasing products into the atmosphere.

- **Safe handling of the gas receptacle** :
  - RRefer 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 cylinder valves, 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 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.
  - Sucking back of water into the container must be prevented.

- **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.

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

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OEL (Occupational Exposure Limits) : No data available.
DNEL (Derived-No Effect Level) : No data available.
PNEC (Predicted No-Effect Concentration) : No data available.

Exposure controls

- **Appropriate engineering controls:**
  - Provide adequate general and local exhaust ventilation.
  - Systems under pressure should be regularly checked for leakages.
  - Oxygen detectors should be used when asphyxiating gases may be released.
  - 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:
  - 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 : Wear safety shoes while handling containers (Standard EN ISO 20345 - Personal protective equipment - Safety footwear)

★ 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).

★ Thermal hazards : None necessary

- **Environmental exposure controls** : None necessary

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 : No odor warning properties
- Odor threshold : Odour threshold is subjective and inadequate to warn of overexposure
- pH value : Not applicable
- Molar mass : 40 g/mol
- Melting point : -189 °C
- Boiling point : -186 °C
- Flash point : Not applicable for gases and gas mixtures
- Critical temperature [°C] : -122 °C
- Evaporation rate (ether=1) : Not applicable for gases and gas mixtures
- Flammability range : Non flammable
- Vapor pressure [20°C] : Not applicable
- Vapor pressure [50°C] : Not applicable
- Relative density, gas (air=1) : 1.38
- Relative density, liquid (water=1) : Not applicable
- Solubility in water : 67.3 mg/l
- Partition coefficient n-octanol/water [log Kow] : Not applicable for inorganic gases
- Auto-ignition temperature : Not applicable
- Viscosity [20°C] : Not applicable
- Explosive Properties : Not applicable
- Oxidizing Properties : None

Other information

- **Other data** : Odour threshold is subjective and inadequate to warn of overexposure.

SECTION 10: STABILITY AND REACTIVITY

- Reactivity: No reactivity hazard other than the effects described in sub-sections below
- Chemical stability: Stable under normal conditions.
- Possibility of hazardous reactions: None.
- Conditions to avoid: None under recommended storage and handling conditions
- Incompatible materials: None

For additional information on compatibility refer to ISO 11114.

- Hazardous decomposition products : None

SECTION 11:TOXICOLOGICAL INFORMATION

Toxicity information : No toxicological effects from this product

SECTION 12:ECOLOGICAL INFORMATION

Ecological effects information : No ecological damage caused by this product

SECTION 13:DISPOSAL CONSIDERATIONS

Waste treatment methods

- May be vented to the atmosphere in a well ventilated place.
- Discharge to the atmosphere in large quantities should be avoided.
- Do not discharge into any place where its accumulation could be dangerous.
- Return unused product in original cylinder to the supplier
  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 05: Gases in pressure containers other than those mentioned in 16 05 04.

Additional information: External treatment and disposal of waste should comply with applicable local and/or national regulations.

SECTION 14: TRANSPORT INFORMATIONS

UN number

UN-No. : 1013

UN proper shipping name

Transport by road/rail (ADR/RID) : CARBON DIOXIDE, COMPRESSED
Transport by air (ICAO-TI / IATA-DGR) : CARBON DIOXIDE, COMPRESSED
Transport by sea (IMDG) : CARBON DIOXIDE, COMPRESSED

Transport hazard class(es)

Labeling:



2: Non-flammable, non-toxic gases

Transport by road/rail (ADR/RID)

Class : 2
Classification code : 2 A
Hazard identification number : 20
Tunnel Restriction : C/E - Tank carriage : Passage forbidden through tunnels of category C, D and E. Other carriage : Passage forbidden through tunnels of category E.

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

Class / Div. (Sub. risk(s)) : 2.2

Transport by sea (IMDG)
Class / Div. (Sub. risk(s)) : 2.2
Emergency Schedule (EmS) - Fire : F-C
Emergency Schedule (EmS) - Spillage : S-V

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 : 200
- Cargo Aircraft only : 200
- ❖ Transport by sea (IMDG) : P200
- ❖ Special transport precautions :
- Avoid transport on vehicles where the load space is not separated from thedriver'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 : Not 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.

SECTION 16: OTHER INFORMATION

NFPA Carbon Dioxide



