

OXYGEN, Refrigerated Liquid (O2)**AL610**

Label 2.2 : Non flammable, non toxic gas.



Label 5.1 : Oxidizing substances.

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Trade name : OXYGEN, Refrigerated Liquid (O2)
MSDS Nr : AL610
Use : Industrial applications.
Chemical formula : O2
Company identification : Air Liquide Australia Limited
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ALAEquiries@AirLiquide.com
Emergency phone nr : 1800 812 588

2 HAZARDS IDENTIFICATION

Hazard classification : Not classified as hazardous according to NOHSC criteria.
Classified as a dangerous good by the criteria of the ADG code.
Hazards identification : Refrigerated liquefied gas. Contact with product may cause cold burns or frostbite.
Oxidant. Strongly supports combustion. May react violently with combustible materials.
R Phrase(s) : R8 : Contact with combustible material may cause fire.
S Phrase(s) : S17 : Keep away from combustible material.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Preparation : Substance.

Substance name	Contents	CAS No	EC No	Annex No	Classification
Oxygen (refrigerated)	100 %	7782-44-7	231-956-9	008-001-00-8	O; R8

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

4 FIRST AID MEASURES

First aid measures

- **Inhalation** : Continuous inhalation of concentrations higher than 75% may cause nausea, dizziness, respiratory difficulty and convulsion.
Remove victim to uncontaminated area.
- **Skin/eye contact** : Immediately flush eyes thoroughly with water for at least 15 minutes.
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.

5 FIRE-FIGHTING MEASURES

Specific hazards : Exposure to fire may cause containers to rupture/explode.
Supports combustion.



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5 FIRE-FIGHTING MEASURES (continued)

- Hazardous combustion products** : None.
- Extinguishing media**
- **Suitable extinguishing media** : All known extinguishants can be used.
- Specific methods** : If possible, stop flow of product.
Move away from the container and cool with water from a protected position.
If leaking do not spray water onto container. Water surrounding area (from protected position) to contain fire.
- Special protective equipment for fire fighters** : None.

6 ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Evacuate area.
Ensure adequate air ventilation.
Eliminate ignition sources.
Use protective clothing.
- Environmental precautions** : Try to stop release.
Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
- Clean up methods** : Ventilate area.
Keep area evacuated and free from ignition sources until any spilled liquid has evaporated. (Ground free from frost).

7 HANDLING AND STORAGE

- Storage** : Segregate from flammable gases and other flammable materials in store.
Keep container below 50°C in a well ventilated place.
- Handling** : Use no oil or grease.
Open valve slowly to avoid pressure shock.
Suck back of water into the container must be prevented.
Do not allow backfeed into the container.
Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
Keep away from ignition sources (including static discharges).
Refer to supplier's container handling instructions.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- Personal protection** : Do not smoke while handling product.
Ensure adequate ventilation.
Protect eyes, face and skin from liquid splashes.
Avoid oxygen rich (>21%) atmospheres.

9 PHYSICAL AND CHEMICAL PROPERTIES

- Physical state at 20 °C** : Gas.
- Colour** : Bluish liquid.
- Odour** : No odour warning properties.
- Molecular weight** : 32
- Melting point [°C]** : -219
- Boiling point [°C]** : -183
- Critical temperature [°C]** : -118

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Vapour pressure [20°C]	: Not applicable.
Relative density, gas (air=1)	: 1.1
Relative density, liquid (water=1)	: 1.1
Solubility in water [mg/l]	: 39
Flammability range [vol% in air]	: Oxidiser.
Auto-ignition temperature [°C]	: Not applicable.
Other data	: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

10 STABILITY AND REACTIVITY

Stability and reactivity	: May react violently with combustible materials. May react violently with reducing agents. Violently oxidises organic material. Liquid spillages can cause embrittlement of structural materials. Risk of explosion if spilt on organic structural materials (eg wood or asphalt). Consider the potential toxicity hazard due to the presence of chlorinated or fluorinated polymers in high pressure (> 30 bars) oxygen lines in case of combustion
Hazardous decomposition products	: None.
Conditions to avoid	: Keep equipment free from oil and grease.

11 TOXICOLOGICAL INFORMATION

Toxicity information	: No toxicological effects from this product.
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12 ECOLOGICAL INFORMATION

Ecological effects information	: Can cause frost damage to vegetation.
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13 DISPOSAL CONSIDERATIONS

General	: To atmosphere in a well ventilated place. Do not discharge into any place where its accumulation could be dangerous. Contact supplier if guidance is required.
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14 TRANSPORT INFORMATION

UN No. : 1073

• Labelling ADG, IMDG, IATA



: Label 5.1 : Oxidizing substances.
Label 2.2 : Non flammable, non toxic gas.

Land transport

H.I. nr : 225

Proper shipping name : OXYGEN, REFRIGERATED LIQUID

HAZCHEM - Emergency Action Code : HAZCHEM

: HAZCHEM_C



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14 TRANSPORT INFORMATION (continued)

- ADG Class : 2
- ADG Classification code : 3 O
- Packing Instruction(s) - General : P203
- Sea transport**
- IMO-IMDG code
- Proper shipping name : OXYGEN, REFRIGERATED LIQUID
- Class : 2.2
- IMO Packing group : P203
- Emergency Schedule (EmS) - Fire : F-C
- Emergency Schedule (EmS) - Spillage : S-W
- Instructions - Packing : P203
- Air transport**
- ICAO/IATA
- Proper shipping name : OXYGEN, REFRIGERATED LIQUID
- Class : 2.2
- Passenger and Cargo Aircraft : DO NOT LOAD IN PASSENGER AIRCRAFT.
- Cargo Aircraft only : FORBIDDEN.
- Other transport information** : 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 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.
 - Ensure there is adequate ventilation.
 - Compliance with applicable regulations.

15 REGULATORY INFORMATION

- EC Classification** : Annex No : 008-001-00-8
O; R8
- EC Labelling**
- Symbol(s)** : O : Oxidizing
- R Phrase(s)** : R8 : Contact with combustible material may cause fire.
- S Phrase(s)** : S17 : Keep away from combustible material.

16 OTHER INFORMATION

May cause frostbite.

Ensure all national/local regulations are observed.

Ensure operators understand the hazard of oxygen enrichment.

This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws.

- DISCLAIMER OF LIABILITY** : Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.
Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.



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16 OTHER INFORMATION (continued)

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