

Liquid Oxygen (refrigerated)

SDS_097R_CLP



2.2 : Non-flammable, non-toxic gases



Danger



SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name : Liquid Oxygen (refrigerated)
SDS Nr : SDS_097R_CLP
Chemical description : Liquid Oxygen (refrigerated)
CAS No : 7782-44-7
EC No : 231-956-9
Index No : 008-001-00-8
Registration-No. : Listed in Annex IV / V REACH, exempted from registration.
Chemical formula : O₂
Use : Industrial and professional. Perform risk assessment prior to use.
Company identification : Energas Ltd.
Westmorland Street, Hull HU2 0HX,
United Kingdom
E-Mail address (competent person) : mark.nugent@energass.co.uk
Emergency telephone number : 01482 329333

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

2.2. Label elements

2.3. Other hazards

: None.

SECTION 3. Composition/information on ingredients

Substance.

Substance name	Contents	CAS No EC No Index No Registration no	Classification(DSD)	Classification(CLP)
Oxygen (refrigerated)	: 100 %	7782-44-7 231-956-9 008-001-00-8 * 1	O; R8	Ox. Gas 1 (H270) Press. Gas Refrigerated (H281)



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SECTION 3. Composition/information on ingredients (continued)

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

* 1: Listed in Annex IV / V REACH, exempted from registration.

* 2: Registration deadline not expired.

Full text of R-phrases see section 16.

SECTION 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.

SECTION 5. Firefighting measures

Extinguishing media

- Suitable extinguishing media : All known extinguishants can be used.

Specific hazards

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

Hazardous combustion products

- : None.

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.

SECTION 6. Accidental release measures

Personal precautions

- : Evacuate area.
Ensure adequate air ventilation.
Eliminate ignition sources.
Use protective clothing.
- : 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).

Liquid Oxygen (refrigerated)**SDS_097R_CLP****SECTION 7. Handling and storage**

- 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.
- Storage** : Segregate from flammable gases and other flammable materials in store.
Keep container below 50°C in a well ventilated place.

SECTION 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 (>23,5%) atmospheres.

SECTION 9. Physical and chemical properties

- Physical state at 20°C / 101.3kPa** : Gas.
- Colour** : Bluish liquid.
- Odour** : No odour warning properties.
- Melting point [°C]** : -219
- Boiling point [°C]** : -183
- Critical temperature [°C]** : -118
- Flammability range [vol% in air]** : Oxidiser.
- 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
- Auto-ignition temperature [°C]** : Not applicable.
- Other data** : Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.
- Molecular weight** : 32

SECTION 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 (e.g. wood or asphalt).
: None.

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SECTION 11. Toxicological information

Toxicity information : No toxicological effects from this product.

SECTION 12. Ecological information

Ecological effects information : Can cause frost damage to vegetation.

SECTION 13. Disposal considerations

General : May be vented 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.

SECTION 14. Transport information

UN number : 1073

Labelling ADR, IMDG, IATA



: 5.1 : Oxidizing substances
2.2 : Non-flammable, non-toxic gases

Land transport (ADR/RID)


H.I. nr : 225
UN proper shipping name : OXYGEN, REFRIGERATED LIQUID
Transport hazard class(es) : 2
Classification code : 3 O
Packing group : P203
Packing Instruction(s) : P203
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

Sea transport (IMDG)

Proper shipping name : OXYGEN, REFRIGERATED LIQUID
Class : 2.2
Emergency Schedule (EmS) - Fire : F-C
Emergency Schedule (EmS) - Spillage : S-W
Packing instruction : P203

Air transport (ICAO-TI / IATA-DGR)

Proper shipping name (IATA) : OXYGEN, REFRIGERATED LIQUID
Class : 2.2
Passenger and Cargo Aircraft : DO NOT LOAD IN PASSENGER AIRCRAFT.
Cargo Aircraft only : FORBIDDEN.
ADR/RID
- IMO-IMDG code
- ICAO/IATA
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:

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SECTION 14. Transport information (continued)

- 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.

SECTION 15. Regulatory information

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

Seveso directive 96/82/EC : Listed.

SECTION 16. Other information

- Training advice** : May cause frostbite.
Ensure operators understand the hazard of oxygen enrichment.
- List of full text of R-phrases in section 3.** : R8 : Contact with combustible material may cause fire.
- Note** : This Safety Data Sheet has been established in accordance with the applicable European Union legislation.
- DISCLAIMER OF LIABILITY** : 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.
Details given in this document are believed to be correct at the time of going to press. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

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