



# Safety Data Sheet

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## LIQUID OXYGEN

### 1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

**Product name** Liquid Oxygen  
**Chemical name/formula** Oxygen / O<sub>2</sub>  
**Company identification** See header and footer  
**Emergency phone no.** See footer

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

**Substance/Preparation** Substance  
**Components/Impurities** Contains no other components or impurities, which will influence the classification of the product.  
**CAS No.** 7782-44-7

### 3. HAZARDS IDENTIFICATION

**General**

- Refrigerated liquefied gas.
- Contact with product may cause cold burns or frostbite.
- Oxidant and strongly supports combustion.
- May react violently with combustible materials.

### 4. FIRST-AID MEASURES

**Inhalation**

- Continuous inhalation of concentrations higher than 75% may cause nausea, dizziness, respiratory difficulty and convulsion.
- Remove victim to uncontaminated area wearing self-contained breathing apparatus.
- Keep victim warm and rested. Call a doctor.

**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**

- Strongly supports combustion.
- Exposure to fire may cause containers to rupture or explode.

**Hazardous combustion products**

- None.

**Suitable extinguishing media**

- All known extinguishants can be used.

**Specific methods**

- If possible, stop flow of product.
- Move container away or cool with water from a protected position.
- If leaking, do not spray water into container.
- Water surrounding area (from protected position) to contain fire.

**Special protective equipment (for fire fighters)**

- In confined space, use a self-contained breathing apparatus.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**

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

**Environmental precautions**

- Try to stop release.
- Prevent from entering sewers, basements and work pits 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 & STORAGE

**General**

- Use no oil or grease.
- Open valve slowly to avoid pressure shock.
- Segregate from flammable gases and other flammable materials in store
- Suck back of water into the container must be prevented.
- Use only properly specified equipment, which is suitable for this product, its supply pressure and temperature.
- Keep container below 50°C in a well-ventilated place.
- Contact SOXAL if in doubt.

### 8. EXPOSURE CONTROLS & PERSONAL PROTECTION

**Exposure limit value**

- None.

**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 & CHEMICAL PROPERTIES

**Molecular weight** 32  
**Melting point** - 219°C  
**Boiling point** - 183°C  
**Critical temperature** - 118°C  
**Relative density, gas** 1.10 (air = 1)  
**Relative density, liquid** 1.10 (water = 1)  
**Vapour pressure @ 20°C** Not applicable  
**Solubility mg/l water** 39 mg/l  
**Appearance/Colour** Bluish liquid

For product and/or safety enquiry, please send, call, fax or log on to:

**SINGAPORE OXYGEN AIR LIQUIDE PTE LTD**

16, Jalan Buroh, Singapore 619475.

Tel: (65) 6265 3788 or 6265 4555 Fax: (65) 6265 1441 or 6268 8403 Website: [www.soxal.com](http://www.soxal.com) Business Registration No: 197001157D

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### 9. PHYSICAL & CHEMICAL PROPERTIES (continue)

Odour	No odour warning properties
Auto-ignition temperature	Not applicable
Flammability range	Oxidiser
Others	Cold gas or vapour is heavier than air and may accumulate in confined space, particularly at or below ground level.

### 10. STABILITY & REACTIVITY

General	<ul style="list-style-type: none"><li>May react violently with combustible materials and with reducing agents.</li><li>Violently oxidises organic material.</li><li>Liquid spillages can cause embrittlement of structural materials.</li><li>Risk of explosion if spill on organic structural material (e.g. wood or asphalt).</li></ul>
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### 11. TOXICOLOGICAL INFORMATION

General	<ul style="list-style-type: none"><li>No known toxicological effects from this product.</li></ul>
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### 12. ECOLOGICAL INFORMATION

General	<ul style="list-style-type: none"><li>May cause frost damage to vegetation.</li></ul>
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### 13. DISPOSAL CONSIDERATIONS

General	<ul style="list-style-type: none"><li>Do not discharge into any place where its accumulation could be dangerous.</li><li>Vent to atmosphere in a well ventilated place.</li><li>Contact SOXAL if guidance is required.</li></ul>
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### 14. TRANSPORT INFORMATION

UN No.	1073
Class/Division	2.2 (Non-Flammable Gas)
Subsidiary risk	Oxidiser
UN proper shipping name	Oxygen, refrigerated liquid

### IMO/IATA shipping label



### 15. REGULATORY INFORMATION

General	<ul style="list-style-type: none"><li>Singapore's WSH (General Provisions) Regulations 2006, Sections 42 &amp; 43.</li><li>Singapore Standards:<ul style="list-style-type: none"><li>CP 12:2000 Part 1</li><li>CP 98:2003</li><li>SS 152:2003</li><li>SS 286:1984 Part 1 to Part 5</li></ul></li></ul>
Risk and safety phrases	<ul style="list-style-type: none"><li>R8 – Contact with combustible materials may cause fire.</li><li>S17 – Keep away from combustible materials.</li></ul>

### 16. OTHER INFORMATION

General	<ul style="list-style-type: none"><li>Ensure all local regulations or legislations are observed.</li><li>May cause cold burn or frostbite. Wear suitable protective clothing.</li><li>Ensure operators understand the hazard of oxygen enrichment</li><li>Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.</li></ul>
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