



**ELLENBARRIE  
INDUSTRIAL GASES LTD**

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## MATERIAL SAFETY DATA SHEET

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### 1. COMPANY IDENTIFICATION AND PRODUCT IDENTIFICATION

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Ellenbarrie Industrial Gases Ltd.  
3A, Ripon Street  
Kolkata – 700 016  
West Bengal  
India

PLANTS :

- 1) D-25 Industrial Area  
Kalyani, Dist.-Nadia  
West Bengal - 741235
- 2) National Highway No.6  
Opposite WBIIDC Growth Centre  
Uluberia, Dist. – Howrah  
West Bengal

**Product Details** : Oxygen, Liquid / Gaseous.

**Chemical Name** : Oxygen

**Common Names / Synonyms** : LOX, Liquid Oxygen, Oxygen, Compressed Oxygen, Oxygen Gas, GO, GOX.

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### 2. COMPOSITION

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**Oxygen** : 99% to 99.9%

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### 3. HAZARDS IDENTIFICATION

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a) **Characteristics** : Pale blue liquid, colourless gas, odorless, oxidizer, slightly soluble in water. Non-toxic and Non-flammable.

b) **Physical Hazards** : Containers may rupture or explode under excessive pressure and / or if exposed to heat.

May ignite combustibles; No mineral oil or lubricant should be used on containers or their fillings.

c) **Potential Health Effects** : Oxygen is non-toxic. However, prolonged exposure may cause irritation, change in body temperature, nausea, coughing, difficulty in breathing, dizziness, lung congestion and other pulmonary changes.

Contact with Liquid form may cause blisters or frostbite.

Contact with evaporating Liquid may cause tissue freezing.

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### 4. FIRST AID

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**Inhalation** : Remove to uncontaminated area. Get medical attention.

**Skin Contact** : If frostbite or freezing occurs, flush with lukewarm water. Get immediate medical attention.

**Eye Contact** : Remove to uncontaminated area. Open eyelids wide to allow liquid to evaporate. Get Medical attention.

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## 5. FIRE FIGHTING

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- a) **Fire and Explosion Hazards** : Oxygen concentration accelerates combustion. Containers may rupture violently from pressure when involved in a fire situation.
  - b) **Extinguishing Media** : Water, Carbon Di Oxide, Dry Chemical.
  - c) **Fire Fighting Instructions** : If possible, stop the flow of Oxygen. Move the container from fire area if it can be done without risk. Continue to cool fire-exposed cylinders until well after flames are extinguished.
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## 6. ACCIDENTAL RELEASE MEASURES

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Evacuate people from affected area. Presence of any combustible or flammable materials may cause a fire or explosion. If leak is in users' equipment, purge with inert gas before attempting repairs.

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## 7. HANDLING AND STORAGE

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Liquid Oxygen cannot be handled in Carbon or low alloy steel. Stainless Steel and Copper are acceptable.

Equipment and fittings must be '**cleaned for Oxygen Gas**'.

Post '**No Smoking**' signs in storage and handling areas.

Store in a cool, Dry place with adequate ventilation. Keep separated from incomplete substances.

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## 8. PHYSICAL AND CHEMICAL PROPERTIES

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| <u>PARAMETER</u>              | <u>ATTRIBUTE / VALUE</u> |
|-------------------------------|--------------------------|
| Physical State                | Cryogenic Liquid / Gas   |
| Colour                        | Blue / Colourless        |
| Odor                          | Odorless                 |
| Molecular Weight              | 31.9988                  |
| Molecular Formula             | O <sub>2</sub>           |
| Boiling Point                 | -183°C (-297°F)          |
| Freezing Point                | -218°C (-360°F)          |
| Vapour Pressure               | 760mm Hg at -183°C       |
| Vapour Density (Air = 1)      | 1.1                      |
| Specific Gravity              | 1.1407 at -183°C         |
| Solubility (H <sub>2</sub> O) | 3.2% at 25°C             |
| PH                            | Not Applicable           |

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## 9. EXPOSURE CONTROLS

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**Engineering Controls:** Use local exhaust to prevent concentration in air beyond 25%.

**Eye Protection:** Wear splash resistant safety goggles where contact with Liquid is possible. Eye protection not required for gas.

**Skin Protection:** Insulated gloves recommended for Liquids.

**Other Protection:** Safety shoes, Safety shower.

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## 10. STABILITY AND REACTIVITY

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**Stability :** Stable

**Incompatibilities :** Combustible and Flammable materials, Halo Carbons, Reducing agents, Metal Salts.

**Polimerization :** Will not occur.

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## 11. TOXOLOGICAL INFORMATION

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No significant toxic effects.

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## 12. ECOLOGICAL INFORMATION

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Not Applicable.

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### **13. DISPOSAL CONSIDERATION**

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Do not attempt to dispose off residual or unused quantities. Close valve tightly after use.

#### **DISCLAIMER :**

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