

**Material Safety Data Sheet - Oxygen**

**1. IDENTIFICATION OF THE SUBSTANCE/ PREPARATION AND OF THE COMPANY**

MSDS NR : 097 A  
 PRODUCT NAME : Oxygen  
 CHEMICAL FORMULA : O<sub>2</sub>  
 COMPANY IDENTIFICATION : See heading and/or footer  
 EMERGENCY PHONE NUMBER : 603-2078 9200

**2. COMPOSITION / INFORMATION ON INGREDIENTS**

SUBSTANCE / PREPARATION : Substance  
 COMPONENTS / IMPURITIES : Contains on other components or impurities, which will influence the classification of the product.

CAS NR : 07782-44-7  
 EEC NR. (FROM EINECS) : 2319569

**3. PHYSICAL AND CHEMICAL PROPERTIES**

MOLECULAR WEIGHT : 32  
 MELTING POINT : 219 °C  
 BOILING POINT : 183 °C  
 CRITICAL TEMPERATURE : 118 °C  
 RELATIVE DENSITY, GAS : 1.1 (air = 1)  
 RELATIVE DENSITY, LIQUID : 1.1 (water = 1)  
 VAPOUR PRESSURE 20 °C : Not applicable  
 SOLUBILITY MG/L WATER : 39 mg/l  
 APPEARANCE / COLOR : Colorless gas  
 ODOUR : No odour warning properties  
 AUTOIGNITION TEMPERATURE : Not applicable  
 FLAMMABILITY RANGE : Oxidiser  
 OTHER DATA : Gas / vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

**4. FIRST AID MEASURES**

INHALATION : Continuous inhalation of concentrations higher than 75% may cause nausea, dizziness, respiratory difficulty and convulsions

**5. FIRE FIGHTING MEASURE**

SPECIFIC HAZARDS : Supports combustion. Exposure to fire may cause containers to rupture /explode. Non flammable.

HAZARDOUS COMBUSTION PRODUCTS : None

SUITABLE EXTINGUISHING MEDIA : All know extinguishants can be used

SPECIFIC METHODS : If possible, stop flow of product. Move container away or cool with water from a protected position.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS : None

**6. ACCIDENTAL RELEASE MEASURES**

PERSONAL PRECAUTIONS : Evacuate area. Ensure adequate air ventilation. Eliminate ignition sources.

ENVIRONMENTAL PRECAUTIONS : Try to stop release. Prevent from entering sewers, basements and workouts or any place where is accumulation can be dangerous.

CLEAN UP METHODS : Ventilate area.

**7. HANDLING AND STORAGE**

Use no oil or grease. Open valve slowly to avoid pressure shock. Segregate from flammable gases and other flammable. 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 instruction. Keep container below 50 C in a well-ventilated place.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

PERSONAL PROTECTION

Do not smoke while handling product. Wear suitable hand, body and protection. Wear goggles with

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suitable filter lenses when use is cutting / welding. Avoid oxygen rich (>21%) atmospheres Ensure adequate ventilation.

9. **HAZARDS IDENTIFICATION**  
HAZARDS IDENTIFICATION : Compressed gas Oxidant. Strongly supports combustion. May react violently with combustion materials.
10. **STABILITY AND REACTIVITY**  
STABILITY AND REACTIVITY : May react violently with combustible materials. May react violently with reducing agents. Violently oxidises an organic material
11. **TOXICOLOGICAL INFORMATION**  
GENERAL : No toxicological effects from this product
12. **ECOLOGICAL INFORMATION**  
GENERAL : No ecological damages caused by this product
13. **DISPOSAL CONSIDERATIONS**  
GENERAL : To atmosphere in a well-ventilated place. Do not discharge into any place where accumulation could be dangerous. Contact supplier if guidance is required.
14. **TRANSPORT INFORMATION**  
UN NR : 1072  
CLASS / DIV : 2.2  
SUBSIDIARY RISK : 5.1  
ADR / RID ITEM NR. : 2,1a  
ADR / RID HAZARD NR : 25  
TERRACED NR : 842  
LABELING ADR : Label 2: non-flammable non-toxic gas.  
Label 05: fire-intensifying risk.
- OTHER TRANSPORT INFORMATION :
- Avoid transport on vehicles where load space is not separated from the driver's compartment. Ensure vehicles 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 they are firmly secured and:
- cylinder valve is closed and not leaking
  - valve outlet cap nut or plug (where provided) is correctly fitted
  - valve protection device (where provided) is correctly fitted
  - adequate ventilation
  - compliance with applicable regulations
15. **REGULATORY INFORMATION**  
NUMBER IN ANNEX 1 OF DIR 67 / 548 : Not included in Annex 1  
EC CLASSIFICATION : Proposed by Industry - 0;R8A  
SYMBOLS : 0  
R PHRASE : 9,17A  
LABELING OF CYLINDERS : SYMBOLS - Road transport symbols are used and selected according to the most stringent product classification -EC or ADR.  
Label 2: non-flammable non-toxic gas.  
Label 05: fire-intensifying risk.
- RISK PHRASES : R8A Strongly supports combustion  
SAFETY PHRASES : S9 Keep container in well-ventilated place.  
S17A Keep away from combustible material uses no oil or grease.
16. **OTHER INFORMATION**  
Ensure all national / local regulations are observed. Ensure operators understand the hazard of oxygen enrichment. Before using this product in any new process or experiment 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.