

# Oxygen (and High Purity Oxygen)

PRODUCT : OXYGEN (AND HIGH PURITY OXYGEN) MSDS NR : 301-00-0003 BOC VERSION:2.05 DATE : 02/04/08 PAGE : 1/2

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

<b>Product name</b>	Oxygen
<b>Chemical formula</b>	O <sub>2</sub>
<b>Company identification</b>	See end of page 2.
<b>Emergency phone Nos</b>	See end of page 2.

## 2 COMPOSITION/INFORMATION ON INGREDIENTS

<b>Substance/Preparation</b>	Substance
<b>Components/Impurities</b>	Contains no other components or impurities which will influence the classification of the product.
<b>CAS Nr</b>	7782-44-7
<b>EEC Nr (from EINECS)</b>	231-956-9
<b>Specifications</b>	Oxygen 99.5% High Purity Oxygen 99.95% Conforms to BS 4364 : 1993

## 3 HAZARDS IDENTIFICATION

<b>Hazards identification</b>	Compressed gas Oxidant. Strongly supports combustion. May react violently with combustible materials.
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## 4 FIRST AID MEASURES

<b>Inhalation</b>	Not hazardous.
<b>Ingestion</b>	Ingestion is not considered a potential route of exposure.

## 5 FIRE FIGHTING MEASURES

<b>Specific hazards</b>	Supports combustion Non flammable Exposure to fire may cause containers to rupture/explode. Inform Fire Brigade
<b>Hazardous combustion products</b>	None
<b>Suitable extinguishing media</b>	All known extinguishants can be used.
<b>Specific methods</b>	If possible, stop flow of product. Move away from container and cool with water from a protected position.
<b>Special protective equipment for fire fighters</b>	None

## 6 ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Evacuate area. Ensure adequate air ventilation. Eliminate ignition sources. Post warning notices (including no smoking).
<b>Environmental precautions</b>	Try to stop release. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
<b>Clean up methods</b>	Ventilate area.

## 7 HANDLING AND STORAGE

### Handling and storage

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. 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. Keep container below 50°C in a well ventilated place.

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Personal protection</b>	Do not smoke while handling product. Wear suitable hand, body and head protection. Avoid oxygen rich (>21%) atmospheres. Ensure adequate ventilation. Clothing impregnated with oxygen should be ventilated by walking in fresh open air for 15 minutes.
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## 9 PHYSICAL AND CHEMICAL PROPERTIES

<b>Molecular weight</b>	32
<b>Melting point</b>	-219°C
<b>Boiling point</b>	-183°C
<b>Critical temperature</b>	-118°C
<b>Relative density, gas</b>	1.1 (air=1)
<b>Relative density, liquid</b>	Not applicable
<b>Vapour Pressure 20°C</b>	Not applicable
<b>Solubility mg/l water</b>	39 mg/l
<b>Appearance/Colour</b>	Colourless gas
<b>Odour</b>	None
<b>Autoignition temperature</b>	Not applicable
<b>Other data</b>	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

## 10 STABILITY AND REACTIVITY

<b>Stability and reactivity</b>	May react violently with combustible materials. May react violently with reducing agents. Violently oxidises organic material.
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## 11 TOXICOLOGICAL INFORMATION

<b>General</b>	No toxicological effects from this product.
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## 12 ECOLOGICAL INFORMATION

<b>General</b>	No ecological damage caused by this product.
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# SAFETY DATA SHEET

## 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.

## 14 TRANSPORT INFORMATION

**Proper Shipping Name** Oxygen, compressed  
**UN Nr** 1072  
**Class** 2.2  
**Subsidiary risk** 5.1  
**ADR/RID Classification Code** 10  
**ADR/RID Hazard Nr** 25  
**Labelling ADR** Label 2.2: non flammable non toxic gas  
Label 5.1: fire intensifying risk

### 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 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.

## CYLINDER CHARACTERISTICS

Cylinder size	Maximum Filled Pressure at 15°C (bar) supplied	Approx. Dimensions incl. valve and guard where (Kg) (mm)	Approx. Gross Cylinder Weight	Manifolded Cylinder Pallets (MCPs)	Maximum Filled Pressure at 15	Approx. Dimensions incl. valve & guard where supplied (mm)	Max. Gross Cylinder Weight (Kg)
E	137	500 x 150	7	WW (15xW)	230	1290 x 1810 x 840	1500
F	137	855 x 140	18	QW† (12 x W)	230	2000 x 1112 x 832	1500
X	230	940 x 140	20	ZW† (20 x W)	230	2080 x 1330 x 1090	2315
Y	230	910 x 203	39	WN* (15 x N)	200	1290 x 1810 x 840	1500
W	230	1460 x 230	80				
N*	200	1460 x 230	82				

† Offshore customers only

\*Sizes N and WN only available in High Purity Oxygen

OUTLET CONNECTION: 5/8" BSP female right hand cone recessed.

## 15 REGULATORY INFORMATION

**Number in Annex I of Dir 67/548** 008-001-00-8.

**EC Classification** O;R8

### Labelling of cylinders

- **Symbols** Label 2.2: non flammable non toxic gas  
Label 5.1: fire intensifying risk.
- **Risk phrases** R8 Strongly supports combustion.
- **Safety phrases** S9 Keep container in well-ventilated place.  
S17 Keep away from combustible material, use no oil or grease.

## 16 OTHER INFORMATION

**This product is not suitable for breathing or medical purposes.**

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.

Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out. Do not use oxygen as a substitute for air, nitrogen or any other gas.

Always leak check cylinders when first collected, delivered or used using an approved leak detection fluid.

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.

For further safety information please refer to "Safe Under Pressure" and "Guidance for carriage of gas cylinders on vehicles", both of which are available from your local BOC outlet.



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## For product and safety enquiries please phone

In the United Kingdom:

**0800 111 333**

Priestley Road, Worsley  
Manchester M28 2UT  
Fax: 0800 111 555

In the Republic of Ireland:

**1850 333 435**

P.O. Box 201  
Bluebell, Dublin 12  
Fax: 01 409 1801