

**SECTION 1: identification of the substance/mixture and of the company/business****1.1 Product identification**

Substance name	<b>Oxygen</b>
CAS number:	7782-44-7
EC number:	231-956-9
Substance number:	008-001-00-8
REACH registration number	Listed in Annex IV/V of Regulation 1907/2006/EC (REACH), exempt from registration

**1.2 Relevant identified uses of the substance or mixture and unrecommended uses**

Description/use Industrial and professional use in welding and cutting.

**1.3 Details of the supplier of the safety data sheet**

Company name	OXYTURBO SpA
Address and status	Via S. Michele Arcangelo, 3 25017 – Lonato del Garda (BS) Italy
Phone	+39.030.9911855
Fax	+39.030.9911271
E-mail of the competent person responsible for the safety data sheet	safety@oxyturbo.it

**1.4 Emergency telephone number**

Directory of Poison Control Centres:

UK	+44 844 892 0111
Ireland	+353 1 809 2166

**SECTION 2: hazard identification****2.1 Classification of the substance or mixture**

Classification according to EC Regulation 1272/2008 (CLP).

Classification and hazard statements:

Ox. Gas 1 H270	Oxidising gases - Category 1; H270
Press. Gas (Comp.); H280	Gas under pressure: Compressed gas;H280

**2.2 Label elements**

Labelling according to Regulation (EC) No 1272/2008 (CLP)



Hazard pictograms

Warning Hazard

Hazard indications:

H270	May cause or intensify fire; oxidiser.
H280	Contains gas under pressure: may explode if heated.

Recommended cautions:

P244	Keep valves and fittings free from oil and grease.
P220	Keep away from clothing and other combustible materials.

P370+P376	In case of fire: Stop leak if safe to do so.
P403	Store in a well-ventilated place.
P210	Keep away from heat, hot surfaces, sparks, open flames or other ignition sources. No smoking.
P410+P403	Protect from sunlight. Store in a well ventilated place.
P412	Do not expose to temperatures exceeding 50 °C/ 122 °F.
P501	Dispose of contents/container to a multi-collection centre.

**2.3 Other hazards**

Not classified as PBT or vPvB.

The substance has no endocrine-disrupting properties

**SECTION 3: composition/information on ingredients****3.1 Substance**

CAS number	CE number	Index number	Registration number REACH	% [in weight]	Name	Classification Regulation (EC) No 1278/2008 (CLP)
7782-44-7	231-956-9	008-001-00-8	--	100	Oxygen	Ox. Gas 1 (H270) Press. Gas (Comp.) (H280)

It contains no other products and/or impurities that affect the classification of the product.

**SECTION 4: first aid measures****4.1 Description of first aid measures**

Inhalation:	Move the victim to an uncontaminated area. Keep the patient lying down and warm. Call a doctor. Proceed with artificial respiration if breathing stops.
Skin contact:	No adverse effects are expected from this product.
Eye contact:	No adverse effects are expected from this product
Ingestion:	Unlikely route of exposure.

**4.2 Main symptoms and effects, both acute and delayed**

Continuous inhalation of concentrations above 80% may cause coughing, sore throat, chest pain and breathing difficulties.

Breathing pure oxygen can cause damage to the lungs and central nervous system (CNS), resulting in dizziness, poor coordination, tingling sensation, visual and auditory disturbances, muscle contractions, loss of consciousness and convulsions.

**4.3 Indication of any need for immediate medical attention and special treatment**

If you feel unwell, consult a doctor.

**SECTION 5: fire-fighting measures****5.1 Extinguishing media**

Suitable extinguishing media:	water spray.
Unsuitable extinguishing media:	do not use water jets to extinguish the fire.

**5.2 Special hazards arising from the substance or mixture**

Specific hazards:	oxidising agent; vigorously accelerates combustion. Contact with flammable materials may cause fire or explosion. Exposure to flames may cause the container to rupture or explode.
Hazardous combustion products:	None(a).

**5.3 Recommendations for fire extinguishing personnel**

Specific methods:	If possible, stop the spillage of the product. Cool hazard-exposed containers with shower water jets from a protected position. In the event of a leak, do not spray the container with water. Cool the surrounding area with water (from a protected position) to contain the fire.
Special protective equipment for fire-fighters:	Fire extinguishing personnel must use standard protective equipment, including a fire suit, helmet with protective visor, gloves, rubber boots and, in enclosed spaces, SCBA self-contained breathing apparatus. EN 469: Protective clothing for firefighters. EN 15090 Footwear for firefighters. EN 659 Protective gloves for firefighters. EN 443 Helmets for firefighting in buildings and other structures. EN 137 Respiratory protective devices - Self-contained open-circuit compressed air breathing apparatus with full-face mask.

**SECTION 6: measures in the event of accidental release****6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.  
Use self-contained breathing apparatus to enter the affected area if there is no evidence that the atmosphere is breathable.  
Avoid entering sewers, basements, excavations and areas where accumulation can be dangerous.  
Monitor the concentration of the released product.  
Eliminate sources of ignition.  
Evacuate the area.

**6.2 Environmental precautions**

Attempt to stop the leakage.

**6.3 Methods and materials for containment and clean up**

Ventilate the area.

**6.4 References to other sections**

Information on personal protection and disposal can be found in sections 8 and 13.

**SECTION 7: handling and storage****7.1 Precautions for safe handling**Safe use of the product

Use only specific equipment, suitable for the product, pressure and temperature of use. If in doubt, contact the gas supplier.  
Only experienced and appropriately trained personnel should handle gases under pressure.  
The product must be handled in accordance with good safety and industrial hygiene practices.  
Do not use oil or grease.  
Keep the equipment free of oil and grease.  
Only use lubricants and seals approved for use with oxygen.  
Use only with degreased equipment for oxygen use and suitable for cylinder pressure.  
Do not smoke while handling the product.  
Avoid the intake of water, acids and alkalis.

**7.2 Conditions for safe storage, including any incompatibilities**

Keep away from combustible substances.

Do not store with flammable gases or materials.  
Keep the container below 50°C in a well-ventilated area.  
Observe local directives and legislative requirements concerning the storage of containers.  
Containers must not be stored under conditions that can exacerbate corrosive phenomena.  
The containers must be stored upright and secured to prevent the risk of tipping over.  
Stored containers must be checked periodically for general conditions and possible releases.  
Store containers in areas where there is no fire risk, away from heat and ignition sources.

**7.3 Particular end uses**

See subsection 1.2

**SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION****8.1 Control parameters****Occupational exposure limits**

ILV (EU) - 8 H:	--
ILV (EU) - 8 H:	--
TLV <sup>©</sup> -TWA:	--
TLV <sup>©</sup> -STEL:	--
Threshold Limit Values (EN) 8 hours	--
Threshold Limit Values (EN) 8 hours	--
DNEL Derived level without effect:	
Worker - inhalation, long-term - systemic	--
PNEC Predictable no-effect concentration:	--

**8.2 Exposure controls****8.2.1 Appropriate technical controls**

Avoid oxygen-rich atmospheres (>23.5%).  
When the release of oxidising gases is possible, gas detectors should be used.  
Provide adequate ventilation of drains at general and local level.

**8.2.2 Individual protection measures, such as personal protective equipment**

A risk analysis should be conducted and documented to assess the individual risk related to the use of the product and to identify the appropriate PPE for the related risks. The following recommendations should be considered.

Wear safety glasses with side protection (EN 166 - Personal eye protection).

Wear work gloves when handling gas containers (EN 388 - Protective gloves against mechanical hazards).

**8.2.3 Environmental exposure controls**

Refer to local legislation for restrictions on atmospheric emissions. See section 13 for specific gas treatment/disposal methods

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

a) Physical state	gas (at 20°C and 1013 hPa)
b) Colour	colourless
c) Smell:	not noticeable the odour threshold is subjective and inadequate to warn of excessive exposure
d) Melting point/freezing point:	does not apply to gases
e) Boiling point or initial boiling point and boiling range:	-183°C
f) Flammability:	non-flammable
g) Lower and upper explosive limit:	not available.
h) Flash point:	does not apply to gas.
i) Self-ignition temperature:	non-flammable.
j) Decomposition temperature:	not applicable.
k) pH:	does not apply to gases.
l) kinematic viscosity:	does not apply to gases.
m) Solubility:	39 mg/l
n) Partition coefficient n-octanol/water (logarithmic value):	not applicable.
o) Vapour pressure:	not applicable.
p) Density and/or relative density:	not applicable.
q) Relative vapour density:	1.1
r) Particle characteristics:	does not apply to gases.

**9.2 Other information****9.2.1 Information on physical hazard classes**

Critical temperature: - 118 °C

Oxidising power coefficient (Ci) 1

**9.2.2 Other security features**

Gas group: COMPRESSED OXIDISING GAS

**SECTION 10: STABILITY AND REACTIVITY****10.1 Reactivity**

There are no additional reactivity hazards beyond those described in the paragraphs below.

**10.2 Chemical stability**

Stable under normal conditions.

**10.3 Possibility of dangerous reactions**

It violently oxidises organic materials. Risk of explosion in case of spillage on organic material structures (e.g. wood or asphalt).

**10.4 Conditions to avoid**

Avoid humidity in the systems.

**10.5 Incompatible materials**

It may react violently with combustible materials.

It may react violently with reducing agents.

Keep the equipment free of oil and grease.

**10.6 Hazardous decomposition products**

None.

**SECTION 11: TOXICOLOGICAL INFORMATION**

- |   |   |
|---|---|
| a) Acute toxicity:  | this product has no known toxicological effects                 |
| b) Skin corrosion/irritation:                                 | does not meet the classification criteria for this hazard class |
| c) Severe eye damage/irritation:                              | does not meet the classification criteria for this hazard class |
| d) Respiratory or skin sensitisation:                         | does not meet the classification criteria for this hazard class |
| e) Germ cell mutagenicity:                                    | does not meet the classification criteria for this hazard class |
| f) Carcinogenicity:   | does not meet the classification criteria for this hazard class |
| g) Reproductive toxicity:                                     | does not meet the classification criteria for this hazard class |
| h) Specific target organ toxicity (STOT) - single exposure    | does not meet the classification criteria for this hazard class |
| i) Specific target organ toxicity (STOT) - repeated exposure: | does not meet the classification criteria for this hazard class |
| j) danger in the event of aspiration:                         | Not applicable for gases and gas mixtures                       |

**11.2 Information on other hazards**

the product does not contain any substances listed in the main European lists of potential or suspected endocrine disrupters with effects on human health under evaluation

**SECTION 12: ECOLOGICAL INFORMATION****12.1 Toxicity**

There is no known damage to the environment caused by this product

**12.2 Persistence and degradability**

This product does not cause any ecological damage.

**12.3 Bioaccumulative potential**

This product does not cause any ecological damage.

**12.4 Mobility in the soil**

This product does not cause any ecological damage.

**12.5 Results of PBT and VPVB assessment**

Not classified as PBT or vPvB.

**12.6 Endocrine-disrupting properties**

the product does not contain any substances listed in the main European lists of potential or suspected endocrine disrupters with effects on the environment under evaluation.

**12.7 Other adverse effects**

Effect on the ozone layer:	none.
Effects on global warming:	none.
Global warming potential (GWP)	none.

**SECTION 13: OBSERVATIONS ON DISPOSAL****13.1 Waste treatment methods**

Do not discharge where accumulation can be dangerous.

For further information on suitable disposal methods, see EIGA Code of Practice Doc. 30/10 "Disposal of gases", available at <http://www.eiga.org>

List of hazardous waste: 16 05 04\*: gases in pressure containers (including halons), containing dangerous substances.

Contact the supplier if you feel you need instructions for use.

**SECTION 14: TRANSPORT INFORMATION**

- 14.1 UN number or ID number:** 1072
- 14.2 Official UN transport designation:** COMPRESSED OXYGEN
- 14.3 Transport-related hazard classes:** 2.2 + 5.1
- 14.4 Packaging group:** not applicable
- 14.5 Environmental hazards:** environmentally non-hazardous substance
- 14.6 Special precautions for users:**
- avoid transport in vehicles where the loading area is not separated from the passenger compartment;
  - ensure that the driver is informed of the potential risk of the load and knows what to do in the event of an accident or emergency.
  - Before starting the transport:
    - Make sure there is adequate ventilation.
    - Make sure the load is well secured.
    - Ensure that the vessel's valve is closed and does not leak.
    - Ensure that the valve blanking plug, where supplied, is correctly fitted.
    - Ensure that the cap, where supplied, is correctly fitted
- 14.7 Maritime transport in bulk according to IMO Acts:**  
Not applicable.

## SECTION 15: REGULATORY INFORMATION

- 15.1 Safety, health and environmental regulations specific to the substance or mixture**  
Seveso Directive: 2012/18/EU (Seveso III): included - P4
- 15.2 Chemical safety assessment**  
A Chemical Safety Assessment (CSA) is not required for this product.

## SECTION 16: OTHER INFORMATION

- 16.1 Safety, health and environmental regulations specific to the substance or mixture**
- i) Indication of changes  
Revised safety data sheet according to Regulation (EU) 2020/878
  - (ii) Abbreviations and acronyms  
ATE = Acute Toxicity Estimate  
CAS: Chemical Abstract Service  
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No.1272/2008]  
CSA: Chemical Safety Assessment  
EUH statement = CLP-specific Hazard statement  
RRN = REACH Registration Number  
DNEL = Derived No Effect Level  
PBT - Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
STOT = Specific target organ toxicity  
vPvB - very Persistent and very Bioaccumulative
  - iii) Main bibliographical references and data sources  
Regulation (EC) 1907/2006 of the European Parliament (REACH)  
Regulation (EC) 1272/2008 of the European Parliament (CLP)  
ECHA: European Chemical Agency
  - iv) *Classification and procedure used to derive it under Regulation (EC) 1272/2008 [CLP] in relation to mixtures*  
Classification in accordance with calculation methods
  - v) *Relevant H statements (number and full text)*  
See subsection 2.2

vi) *Guidance on training*

Ensure that operators understand the dangers of using compressed and oxidising gases.

vii) *Further information*

Before using this product in any new process, a thorough study of its safety and material compatibility must be conducted. The information contained in this document is valid at the time of printing. Although every care has been taken in the preparation of this document, the Company shall not be held liable for any damage or injury resulting from its use