

 OXYGEN – GREENWAY 						
Product Name	Oxygen		Risk Assessment Number	97		
Manufacturer	Supplier – BOC		Product Code	000010021701		
Manufacturer Contact Number	0800 111 333		Manufacturer's CAS Ref. (on Safety Data Sheet)	CAS - 7782-44-7		
Manufacturer Safety Data Sheet (MSDS)	Yes		Date of MSDS	10/07/2023		
Hazard Classifications (Tick as appropriate)	☐	 Explosive	☐	 Corrosive	☐	 Acute toxicity
	☒	 Flammable	☐	 Hazardous to the environment	☐	 Health hazard/Irritant/Hazardous to the ozone layer
	☐	 Oxidising	☐	 Serious health hazard	☒	 Gas under pressure
		If patients require oxygen whilst being treated then a mask will be connected to the oxygen cylinder and the valve opened to the correct rate to assist the patient. Oxygen may also be used to nebulise asthmatic patients when used with a nebuliser mask.				
Are Any Hazardous Substances Produced by any Processes?		No hazardous combustion products release from the gas. Oxygen strongly supports combustion and will cause substances to burn vigorously, including some materials that do not normally burn in air. Highly dangerous in the presence of oil, grease, tarry substances and many plastics. Precautionary statements (CLP) Prevention : P220 - Keep away from clothing and other combustible materials. P244 - Keep valves and fittings free from oil and grease. Response : P370+P376 - In case of fire: Stop leak if safe to do so. - Storage : P403 - Store in a well-ventilated place.				
Who might it effect?		Staff Patients Visitors Contractors Emergency service crews				
Controls in Place	☐	Total enclosure of the process	☐	Partial enclosure of the process	☒	General workplace ventilation
	☐	Wet methods (to control dust)	☐	Respiratory Protection	☐	Eye Protection
	☒	Gloves	☐	Overalls	☒	Other – additional door signage

Precautions & Personal Protection 	Good Ventilation and additional door signage It may react violently with combustible materials such as oil and grease												
Emergency First Aid 	<table border="1"> <tr> <td data-bbox="407 401 976 485"> Swallowed: Ingestion is not considered a potential route of exposure. </td><td data-bbox="976 401 1557 485"> In contact with eyes: Adverse effects not expected from this product. </td></tr> <tr> <td data-bbox="407 485 976 569"> Contact with Skin: Adverse effects not expected from this product. </td><td data-bbox="976 485 1557 569"> Inhaled: Remove victim to uncontaminated area </td></tr> </table>			Swallowed: Ingestion is not considered a potential route of exposure.	In contact with eyes: Adverse effects not expected from this product.	Contact with Skin: Adverse effects not expected from this product.	Inhaled: Remove victim to uncontaminated area						
Swallowed: Ingestion is not considered a potential route of exposure.	In contact with eyes: Adverse effects not expected from this product.												
Contact with Skin: Adverse effects not expected from this product.	Inhaled: Remove victim to uncontaminated area												
Action in case of Emergency 	Fire Officer must be informed that Oxygen Cylinders are present and exactly where they are. Suitable extinguishing media - Water spray or fog. Product does not burn, use fire control measures appropriate for the surrounding fire. Unsuitable extinguishing media - Do not use water jet to extinguish.												
Environmental Implications 	None												
Storage, Disposal & Transport 	Storage Storage cupboard.	Disposal Empty cylinders must be collected by BOC Gases	Transport Cylinders are transported by BOC										
Overall Assessment of Risk of Current Use of the Substance 	☒ Low A low-risk score means the substance poses minimal danger under normal working conditions and when proper controls (e.g., PPE, ventilation) are in place. Routine monitoring is sufficient, and there is no immediate concern for harm.	☐ Medium A medium-risk score indicates a moderate chance of harm. This suggests that additional precautions or stricter controls may be required to prevent exposure, such as improving handling procedures or enhancing protective measures.	☐ High A high-risk score means there is a significant likelihood of harm, either due to the nature of the substance or insufficient controls. Immediate action is required to eliminate or reduce exposure to an acceptable level, such as substituting the substance, upgrading safety measures, or improving training and supervision.										
Improvements Required	<table border="1"> <tr> <td data-bbox="407 1640 1105 1671">Are the current controls effective?</td> <td data-bbox="1105 1640 1557 1671">Yes</td> </tr> <tr> <td data-bbox="407 1671 1105 1703">Does the MSDS suggest any controls that we don't have in place?</td> <td data-bbox="1105 1671 1557 1703">No</td> </tr> <tr> <td data-bbox="407 1703 1105 1734">Is air monitoring considered appropriate?</td> <td data-bbox="1105 1703 1557 1734">No</td> </tr> <tr> <td data-bbox="407 1734 1105 1766">Can the process be re-engineered?</td> <td data-bbox="1105 1734 1557 1766">No</td> </tr> <tr> <td data-bbox="407 1766 1105 1808">Have we considered the use of an alternative, less dangerous substance?</td> <td data-bbox="1105 1766 1557 1808">Yes</td> </tr> </table>			Are the current controls effective?	Yes	Does the MSDS suggest any controls that we don't have in place?	No	Is air monitoring considered appropriate?	No	Can the process be re-engineered?	No	Have we considered the use of an alternative, less dangerous substance?	Yes
Are the current controls effective?	Yes												
Does the MSDS suggest any controls that we don't have in place?	No												
Is air monitoring considered appropriate?	No												
Can the process be re-engineered?	No												
Have we considered the use of an alternative, less dangerous substance?	Yes												
Assessment Completed by	Name: Stuart Burgess	Role: Team Manager	Date: 01/03/2025 Review date 01/03/2026										

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830
Reference number: EIGA097A
Issue date: 16/01/2013 Revision date: 10/07/2024 Supersedes version of: 10/07/2023 Version: 2.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Name : Oxygen, compressed
Trade name : oxygen
EC Index-No. : 008-001-00-8
EC-No. : 231-956-9
CAS-No. : 7782-44-7

REACH registration No : Listed in Annex IV / V REACH, exempted from registration.

Product code : 000010021701
Formula : O₂
Other means of identification : Oxygen (Special Gases), Oxygen (and High Purity Oxygen)

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Relevant identified uses : Industrial and professional uses. Perform risk assessment prior to use.
Consumer use.
Test gas/Calibration
gas. Chemical reaction /
Synthesis. Laboratory
use.
Food applications.
Shield gas for welding
processes. Laser gas.
Welding, cutting, heating and brazing.
It is the responsibility of the end user to ensure that the product as
supplied is suitable for its intended use.

Use of the substance/mixture : Balance gas for mixtures.
Carrier gas.
Combustion, melting and cutting
processes. Process gas.
Oxidizing agent
Raw material for pharmaceutical products

1.2.2. Uses advised against

Uses advised against : Industrial or technical grade is unsuitable for medical and/or food
applications or inhalation.

Restrictions on use : None.

1.3. Details of the supplier of the safety data sheet

BOC Ltd. (UK)
Priestley Road,
Worsley M28 2UT
Manchester Great
Britain
T 0800 111 333
ReachSDS@boc.com

1.4. Emergency telephone number

Emergency number : 0800 111 333

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Physical hazards	Oxidising Gases, Category 1	H2
	70 Gases under pressure : Compressed gas	H2
	80	

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and

2.2. Label elements

environmental effects No additional information
available

Labelling according to Regulation (EC) No. 1272/2008 [CLP] Hazard pictograms (CLP)

:



GHS03

GHS04

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H270 - May cause or intensify fire; oxidiser.

H280 - Contains gas under pressure; may explode if heated.

Precautionary statements (CLP)

- Prevention

: P220 - Keep away from clothing and other combustible materials.

P244 - Keep valves and fittings free from oil and grease.

- Response

: P370+P376 - In case of fire: Stop leak if safe to do so.

- Storage

: P403 - Store in a well-ventilated place.

2.3. Other hazards

Other hazards
endocrine disrupting properties.

: Not classified as PBT or vPvB. The substance/mixture has no

SECTION 3: Composition/information on ingredients

3.1. Substances

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Oxygen, compressed	CAS-No.: 7782-44-7 EC-No.: 231-956-9 EC Index-No.: 008-001-00-8 REACH-no: *1	100	Ox. Gas 1, H270 Press. Gas (Comp.), H280

Full text of H- and EUH-statements: see section 16

Contains no other components or impurities which will influence the classification of the product.

**1: Listed in Annex IV / V REACH, exempted from registration.*

**3: Registration not required: Substance manufactured or imported < 1t/y.*

3.2. Mixtures

Not applicable

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to uncontaminated area.
First-aid measures after skin contact : Adverse effects not expected
from this product. First-aid measures after eye contact : Adverse effects
not expected from this product.
First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects, both acute and delayed

Most important symptoms and effects, both acute and delayed Continuous inhalation of concentrations higher than 75% may cause nausea, dizziness, respiratory difficulty and convulsion.
See section 11.

4.3. Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray or fog. Product does not burn, use fire control measures appropriate for the surrounding fire.
Unsuitable extinguishing media : Do not use water jet to extinguish.

5.2. Special hazards arising from the substance or mixture

Reactivity in case of fire sections below. : No reactivity hazard other than the effects described in sub-
sections below.
Specific hazards : Supports combustion.
Exposure to fire may cause containers to rupture/explode.
Hazardous combustion products : None.

5.3. Advice for firefighters

Specific methods : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems.
If possible, stop flow of product.
Use water spray or fog to knock down fire fumes if possible.
Move containers away from the fire area if this can be done without risk.
Special protective equipment for fire fighters : Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2017/525

Standard EN 469 - Protective clothing for firefighters. Standard -
EN 659: Protective gloves for firefighters.

Standard EN 137 - Self-contained open-circuit compressed air
breathing apparatus with full face mask.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures

: Act in accordance with local emergency plan. Try to stop release. Evacuate area. Eliminate ignition sources. Ensure adequate air ventilation. See section 8 of the SDS for more information on personal protective equipment.

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

6.1.2. For emergency responders

Emergency procedures : Monitor concentration of released product. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. See section 5.3 of the SDS for more information.

6.2. Environmental precautions

Try to stop release.

6.3. Methods and material for containment and cleaning up

Methods and material for containment and cleaning up : Ventilate area.

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Safe use of the product sealings. : Use only oxygen approved lubricants and oxygen approved

Use only with equipment cleaned for oxygen service and rated for container pressure. Keep equipment free from oil and grease. For more guidance, refer to the EIGA Doc. 33 - Cleaning of Equipment for Oxygen Service downloadable at <http://www.eiga.eu>.

Use no oil or grease.

The product must be handled in accordance with good industrial hygiene and safety procedures.

Only experienced and properly instructed persons should handle gases under pressure. Consider pressure relief device(s) in gas installations.

Ensure the complete gas system was (or is regularly) checked for leaks before use. Do not smoke while handling product.

Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.

Avoid suck back of water, acid and alkalis. Do not breathe gas.

Safe handling of the gas receptacle : Refer to supplier's container handling instructions.

Do not allow backfeed into the container.

Protect containers from physical damage; do not drag, roll, slide or drop.

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2018/888

When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders.

Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use.

If user experiences any difficulty operating valve discontinue use and contact supplier. Never attempt to repair or modify container valves or safety relief devices.

Damaged valves should be reported immediately to the supplier. Keep container valve outlets clean and free from contaminants particularly oil and water. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment.

Close container valve after each use and when empty, even if still connected to equipment. Never attempt to transfer gases from one cylinder/container to another.

Never use direct flame or electrical heating devices to raise the pressure of a container.

Do not remove or deface labels provided by the supplier for the identification of the content of the container.

Suck back of water into the container must be prevented. Open valve slowly to avoid pressure shock.

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

7.2. Conditions for safe storage, including any incompatibilities

Conditions for safe storage, including any incompatibilities : Segregate from flammable gases and other flammable materials in store. Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion.
Container valve guards or caps should be in place.
Containers should be stored in the vertical position and properly secured to prevent them from falling over.
Stored containers should be periodically checked for general condition and leakage. Keep container below 50°C in a well ventilated place.
Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible materials.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

Oxygen, compressed (7782-44-7)	
DNEL/DMEL (additional information)	
Additional information	None available.
PNEC (additional information)	
Additional information	None available.

Additional information : None available.

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Avoid oxygen rich (>23,5%) atmospheres. Gas detectors should be used when oxidising gases may be

Oxygen compressed

released. Provide appropriate general and local exhaust ventilation. Consider the use of a work permit system for maintenance activities. Systems under pressure should be regularly checked for leakages.

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

8/22 Personal protective equipment

Personal protective equipment:

A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk. The following recommendations should be considered: PPE compliant to the recommended EN/ISO standards should be selected.

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830



Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection:

Wear safety glasses with side shields.

Standard EN 166 - Personal eye-protection - specifications

8.2.2.2. Skin protection

Hand protection:

Wear working gloves when handling gas containers.

Standard EN 388 - Protective gloves against mechanical risks, performance level 1 or higher.

Other skin protection

Consider the use of flame resistant safety clothing. Standard EN ISO 14116 - Limited flame spread materials. Wear safety shoes while handling containers.

Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

Other information:

Consider the use of flame resistant safety clothing. Standard EN ISO 14116 - Limited flame spread materials. Wear safety shoes while handling containers.

Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

8.2.2.3. Respiratory protection

Respiratory protection:

None necessary.

Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems.

Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.

8.2.2.4. Thermal hazards

Thermal hazard protection:

None in addition to the above sections.

8.2.3. Environmental exposure controls

Environmental exposure controls:

Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

Appearance

Molecular mass	: 32 g/mol
Physical state	: Gas
Form	: Compressed gas
Colour	: Colourless.
Odour	: Odourless.
Odour threshold overexposure.	: Odour threshold is subjective and inadequate to warn of
pH	: Not applicable for gases and gas mixtures.
Relative evaporation rate (butylacetate=1)	: No
data available Melting point	: -219 °C
Freezing point	: No data available
Boiling point	: -183 °C

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

Flash point	: Not applicable for gases and gas mixtures.
Critical temperature	: -118 °C
Auto-ignition temperature	: Non flammable.
Decomposition temperature	: Not applicable.
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: Not applicable.
Vapour pressure at 50°C	: Not applicable.
Critical pressure	: 5043 kPa
Relative vapour density at 20°C	: Not applicable.
Relative density	: 1.1 EC-TEMP: 0; EC-PRESS: 1013,25-KPA; EC-REFMAT: Water
Density	: Not applicable for gases and gas mixtures.
Relative gas density	: 1.1
Solubility	: Water:39 mg/l
Partition coefficient n-octanol/water (Log Pow)	: Not applicable for gas mixtures. Partition coefficient n-octanol/water (Log Kow)
inorganic products. Viscosity, kinematic	: No reliable data available.
Viscosity, dynamic	: No reliable data available.
Explosive properties	: No data available
Oxidising properties	: Oxidiser.
Explosive limits	: Not known.
Lower explosive limit (LEL)	: Not applicable.
Upper explosive limit (UEL)	: Not applicable.
Particle characteristics	: Not applicable for gases and gas mixtures. Nanoforms are not relevant for gases and gas mixtures.

9.2. Other information

Gas group : Compressed gas

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Stable under normal conditions.

10.4. Conditions to avoid

Avoid moisture in installation systems.

10.3. Possibility of hazardous reactions

Violently oxidises organic material.

10.5. Incompatible materials

Consider the potential toxicity hazard due to the presence of chlorinated or fluorinated polymers in high pressure (> 30 bar) oxygen lines in case of combustion. May react violently with combustible materials. May

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

react violently with reducing agents. Keep equipment free from oil and grease. For more guidance, refer to the EIGA Doc. 33 - Cleaning of Equipment for Oxygen Service downloadable at <http://www.eiga.eu>. For additional information on compatibility refer to ISO 11114.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity : No known toxicological effects from this product.

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: No known effects from this product. pH: Not applicable for gases and gas mixtures.
Serious eye damage/irritation	: No known effects from this product. pH: Not applicable for gases and gas mixtures.
Respiratory or skin sensitisation	: No known effects from this product.
Germ cell mutagenicity	: No known effects from this product.
Carcinogenicity	: No known effects from this product.
Reproductive toxicity	: Not classified
Toxic for reproduction : Fertility	: No known effects from this product.
Toxic for reproduction : unborn child	: No known effects from this product.
STOT-single exposure	: No known effects from this product.
STOT-repeated exposure	: No known effects from this product.
Aspiration hazard	: Not applicable for gases and gas mixtures.

Oxygen, compressed (7782-44-7)

Viscosity, kinematic	No reliable data available.
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Other information : The substance/mixture has no endocrine disrupting properties.

SECTION 12: Ecological information

12.1. Toxicity

Assessment	: No ecological damage caused by this product.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified
Not rapidly degradable	

Oxygen, compressed (7782-44-7)

LC50 96 h - Fish [mg/l]	No data available.
EC50 48h - Daphnia magna [mg/l]	No data available.
EC50 72h - Algae [mg/l]	No data available.

12.2. Persistence and degradability

Oxygen, compressed (7782-44-7)

Assessment	No ecological damage caused by this product.
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12.3. Bioaccumulative potential

Oxygen, compressed (7782-44-7)

Partition coefficient n-octanol/water (Log Pow)	Not applicable for gas mixtures.
Partition coefficient n-octanol/water (Log Kow)	Not applicable for inorganic products.

Oxygen, compressed

Assessment

No ecological damage caused by this product.

Safety Data Sheet

12.4. Mobility in soil

according to the REACH regulation (EC/1907/2006) amended by Regulation (EC/2015/863)

Oxygen, compressed (7782-44-7)

Assessment

No ecological damage caused by this product.

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

12.5. Results of PBT and vPvB assessment

Assessment : Not classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects : No known effects from this product.
Assessment : The substance/mixture has no endocrine disrupting properties.
Effect on the ozone layer : No effect on the ozone layer.
Effect on global warming : None.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Contact supplier if guidance is required. May be vented to atmosphere in a well ventilated place. Ensure that the emission levels from local regulations or operating permits are not exceeded. Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at <http://www.eiga.eu> for more guidance on suitable disposal methods. Do not discharge into any place where its accumulation could be dangerous. Return unused product in original container to supplier.

List of hazardous waste codes (from Commission Decision 2000/532/EC as amended) : 16 05 04 *: Gases in pressure containers (including halons) containing hazardous substances.

13.2. Additional information

External treatment and disposal of waste should comply with applicable local and/or national regulations.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
UN 1072	UN 1072	UN 1072	UN 1072	UN 1072
14.2. UN proper shipping name				
OXYGEN, COMPRESSED	OXYGEN, COMPRESSED	Oxygen, compressed	OXYGEN, COMPRESSED	OXYGEN, COMPRESSED
Transport document description				
UN 1072 OXYGEN, COMPRESSED, 2.2 (5.1), (E)	UN 1072 OXYGEN, COMPRESSED, 2.2 (5.1)	UN 1072 Oxygen, compressed, 2.2 (5.1)	UN 1072 OXYGEN, COMPRESSED, 2.2 (5.1)	UN 1072 OXYGEN, COMPRESSED, 2.2 (5.1)
14.3. Transport hazard class(es)				
2.2 (5.1)	2.2 (5.1)	2.2 (5.1)	2.2 (5.1)	2.2 (5.1)

2 5.1 2 2 2 2 2 2 2 2 2 5.1				
2 5.1 2 2 2 2 2 2 2 2 2 5.1				
2 5.1 2 2 2 2 2 2 2 2 2 5.1	Not applicable	Not applicable	Not applicable	Not applicable

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

ADR	IMDG	IATA	ADN	RID
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Special transport precautions from the driver's : Avoid transport on vehicles where the load space is not separated 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 there is adequate ventilation, - Ensure that containers are firmly secured, - Ensure valve is closed and not leaking, - Ensure valve outlet cap nut or plug (where provided) is correctly fitted, - Ensure valve protection device (where provided) is correctly fitted.

Overland transport

Classification code (ADR) : 10
Special provisions (ADR) : 355, 655, 662
Limited quantities (ADR) : 0
Excepted quantities (ADR) : E0
Packing instructions (ADR) : P200
Mixed packing provisions (ADR) :
MP9 Portable tank and bulk container instructions (ADR) : (M)
Tank code (ADR) : CxBN(M)
Tank special provisions (ADR) : TA4, TT9
Vehicle for tank carriage : AT
Transport category (ADR) : 3
Special provisions for carriage - : CV9, CV10, CV36
Loading, unloading and handling (ADR)

Hazard identification number (Kemler No.) : 25
Orange plates :



Tunnel restriction code (ADR) : E
EAC code : 2S

Transport by sea

Oxygen compressed

Special provisions (IMDG) : 355

Limited quantities (IMDG) : 0

Excepted quantities (IMDG) : E0
Regulation (EC) No 1907/2006 amended by Regulation (EU) 2015/830

Packing instructions (IMDG) : P200

EmS-No. (Fire) : F-C

EmS-No. (Spillage) : S-W

Stowage category (IMDG) : A

Properties and observations (IMDG) : Non-flammable, odourless gas. Strong oxidizing agent. Heavier than air (1.1).

Air transport

PCA Excepted quantities (IATA) : E0

PCA Limited quantities (IATA) :

FORBIDDEN PCA limited quantity max net quantity
(IATA) :

FORBIDDEN PCA packing instructions (IATA) :

200

PCA max net quantity (IATA) : 75kg

CAO packing instructions (IATA) : 200

CAO max net quantity (IATA) : 150kg

Special provisions (IATA) : A175, A302

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

ERG code (IATA) : 2X

Inland waterway transport

Classification code (ADN) : 10

Special provisions (ADN) : 355, 655, 662

Limited quantities (ADN) : 0

Excepted quantities (ADN) : E0

Equipment required (ADN) : PP

Number of blue cones/lights (ADN) : 0

Rail transport

Classification code (RID) : 10

Special provisions (RID) : 355, 655, 662

Limited quantities (RID) : 0

Excepted quantities (RID) : E0

Packing instructions (RID) : P200

Mixed packing provisions (RID) :

MP9 Portable tank and bulk container instructions (RID) :

(M)

Tank codes for RID tanks (RID) : CxBN(M)

Special provisions for RID tanks (RID) : TA4, TT9

Transport category (RID) : 3

Special provisions for carriage - Loading, unloading and handling (RID) : CW9, CW10, CW36

Colis express (express parcels) (RID) : CE3

Hazard identification number (RID) : 25

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

IBC code : Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

REACH Annex XVII

(Restriction List) Not listed on

REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

Oxygen, compressed

Not listed on the POP list (Regulation EU 649/2012)

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

POP Regulation (Persistent Organic

Pollutants) Not listed on the POP list

(Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

VOC Directive (2004/42)

Restrictions on use : None.

Seveso Directive (Disaster Risk Reduction)

Seveso Directive : 2012/18/EU (Seveso III) : Listed.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.12. National regulations

Ensure all national/local regulations are observed.

Safety data sheet in accordance with commission regulation (EU) No 2020/878.

Council Directive 89/391/EEC on the introduction of measures to encourage improvements in the

safety and health of workers at work Directive 2016/425/EEC on personal protective equipment

Directive 2014/34/EU on equipment and protective systems intended for use in potentially explosive atmospheres (ATEX)

Only products that comply with the food regulations (EC) No. 1333/2008 and (EU) No. 231/2012 and are labelled as such may be used as food additives. This Safety Data Sheet has been produced to comply with Regulation (EU) 2015/830.

United Kingdom

British National Regulations
(DSEAR 2002 No. 2776).

: Dangerous Substances and Explosive Atmospheres Regulations

Management of Health and Safety at Work

Regulations (1999 No. 3242). The Regulatory

Reform (Fire Safety) Order 2005 (2005 No. 1541).

Control of Substances Hazardous to Health Regulations (COSHH,
2002 No. 2677). Equipment and Protective Systems Intended for
Use in Potentially Explosive Atmospheres Regulations (EPS,
1996 No. 192).

Provision and Use of Work Equipment Regulations
(PUWER, 1998 No. 2306). Personal Protective
Equipment Regulations (1992 No. 2966).

Control of Major Accident Hazards Regulations (COMAH,
2015 No. 483). Chemical Hazards Information and
Packaging for Supply (CHIP, 1994 No. 3247). Pressure
Systems Safety Regulations (PSSR, 2000 No. 128).

Only products that comply with the food regulations (EC) No.
1333/2008 and (EU) No. 231/2012 and are labelled as such may
be used as food additives.

15.2. Chemical safety assessment

A CSA does not need to be carried out for this product.

SECTION 16: Other information

Indication of changes:

Safety data sheet in accordance with commission regulation (EU) No 2020/878.

Abbreviations and acronyms:

ADN

European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

ADR	ADR - Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	ATE - Acute Toxicity Estimate
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAO	Cargo Aircraft only / Cargo Aircraft only
CAS-No.	Chemical Abstract Service number
CLP	CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	CSA - Chemical Safety Assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
EC	European Inventory of Existing Commercial Chemical Substances

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

Abbreviations and acronyms:

ED	Endocrine disrupting properties
EINECS	EINECS - European Inventory of Existing Commercial Chemical Substances
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
IOELV	Indicative Occupational Exposure Limit Value
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PCA	Passenger and Cargo Aircraft / Passenger and Cargo Aircraft
PNEC	Predicted No-Effect Concentration
PPE	PPE - Personal Protection Equipment
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
RMM	RMM - Risk Management Measures
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TRGS	Technical Rules for Hazardous Substances
STOT-RE	Specific Target Organ Toxicity-Repeated Exposure
STOT-SE	Specific Target Organ Toxicity-Single Exposure
UFI	Unique Formula Identifier
UN	UN - United Nations
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class

Training advice

: Ensure operators understand the hazard of oxygen enrichment.

Other information

: Classification in accordance with the procedures and calculation methods of Regulation (EC) 1272/2008 (CLP). Key literature references and sources of data are maintained in EIGA doc 169 : 'Classification and Labelling Guide', downloadable at

Oxygen, compressed

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

<http://www.Eiga.eu> .

Full text of H- and EUH-statements:	
H270	May cause or intensify fire; oxidiser.
H280	Contains gas under pressure; may explode if heated.
Ox. Gas 1	Oxidising Gases, Category 1
Press. Gas (Comp.)	Gases under pressure : Compressed gas

The classification complies with
DISCLAIMER OF LIABILITY

: ATP 12
: Before using this product in any new process or experiment, a 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.

Safety Data Sheet (SDS), EU GB

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.