

# SAFETY DATA SHEET

according to regulation (EG) Nr. 1907/2006



Printing date: 19.09.2013

Revision date: 14.12.2016

Version: 4

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY / UNDERTAKING

### 1.1 Produktidentifikator

Product name:	Oxygen (O-17 Labeled)
EC-No. (non-labeled):	231-956-9
CAS-No.(labeled):	67321-81-7
CAS-No.(non-labeled):	7782-44-7
Index No.(non-labeled):	008-001-00-8
REACH Registration no.:	Not required

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

Identified uses: Laboratory chemicals, manufacture of substances.

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

Supplier:	NUKEM Isotopes Imaging GmbH, Industriestrasse 13, 63755 Alzenau, Deutschland
Telephone:	+49 (0)6023 91 1726
Telefax:	+49 (0)6023 91 1614
Email:	Christian.Schuch@nukemisotopes.de

### 1.4 Emergency telephone number

24 hr. Emergency Telephone: **+1-703-253-4254** (English / Contract No.: 01009)

## 2. HAZARDS INDICATION

### 2.1 Classification of the substance or mixture

Oxidizing gases (category 1), H270; Gases under pressure (compressed gas), H280

*For the full text of the H-phrases mentioned in this section, see section 2.2.*

Classification according to directive 67/548/EEG or directive 1999/45/EG

O Oxidizing agent

R-Phrases:

R 8 Contact with combustible material may cause fire.

### 2.2 Label elements

Labeling according to Regulation (EC) No. 1272/2008

The substance is classified and labeled according to the CLP regulation.

Hazard symbols:



GHS03



GHS04

Signal word:

Danger

# SAFETY DATA SHEET

according to regulation (EG) Nr. 1907/2006



Printing date: 19.09.2013

Revision date: 14.12.2016

Version: 4

## Hazard statement(s):

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

## Precautionary statement(s):

- P220 Keep/Store away from clothing/ combustible materials.  
P244 Keep reduction valves free from grease and oil  
P370 + P376 In case of fire: Stop leak if safe to do so.  
P403 Store in a well-ventilated place.

## **3. CHEMICAL CHARACTERIZATION**

### Substance:

- CAS-No. (description): 67321-81-7 (O-17 labeled Oxygen)  
CAS-No. (description): 7782-44-7 (Oxygen)  
EC-Number (non-labeled): 231-956-9  
Formula:  $^{17}\text{O}_2$   
Molar mass [g/mol]: 33,4 (at 70% enrichment of O-17)

## **4. FIRST AID MEASURES**

### **4.1 Description of first aid measures**

#### If inhaled:

If breathed in (concentration of more than 75 mol %), move person into fresh air. If not breathing, give artificial respiration and consult a physician.

### **4.2 Most important symptoms and effects, both acute and delayed**

Inhalation of high concentrations of oxygen (greater than 75 mol %) causes symptoms of hyperoxia which include: Cramps, Nausea, Dizziness, hypothermia, ambyopia, respiratory difficulties, bradycardia, unconsciousness or death.

### **4.3 Indication of any immediate medical attention and special treatment needed**

No data available.

### **4.4 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

## **5. FIRE FIGHTING MEASURES**

### **5.1 Extinguishing media**

#### Suitable extinguishing agents:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

No information available

### **5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

### **5.4 Further information**

Use water spray to cool unopened containers.

## **6. ACCIDENTAL RELEASE MEASURES**

# SAFETY DATA SHEET

according to regulation (EG) Nr. 1907/2006

Printing date: 19.09.2013

Revision date: 14.12.2016



Version: 4

---

## 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Evacuate personnel to safe areas.

## 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so.

## 6.3 Methods and material for containment and cleaning up

No information available.

## 6.4 Reference to other sections

See Section 13 for disposal information.

---

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Prevent further leakage or spillage if safe to do so.

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

Content under pressure. Store in a cool place.

### 7.3 Specific end use(s)

No further relevant information available.

---

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control Parameters

Not required.

### 8.2 Exposure controls

Handle in accordance with good industrial hygiene and safety practice

#### Respiratory protection:

Use respiratory protection at high concentration (> 75 mol%) of the substance.

#### Eye protection:

Safety goggles.

### 8.3 Environmental exposure controls:

No information available.

---

## 9. PHYSICAL/CHEMICAL PROPERTIES

### General Information

Appearance:	Compressed gas
Odor:	Odorless
pH-value at 20 °C:	Not applicable
Melting point:	-183 °C
Boiling point (1.013 hPa):	-219 °C
Flash point:	No information available
Flammability (solid, gaseous):	No information available
Ignition temperature:	No information available
Decomposition temperature:	No information available
Self-igniting:	No information available
Explosion limits:	Lower: No information available.

# SAFETY DATA SHEET

according to regulation (EG) Nr. 1907/2006



Printing date: 19.09.2013

Revision date: 14.12.2016

Version: 4

---

Oxidizing properties:	Upper: No information available. The substance or mixture is classified as oxidizing with the category 1.
Vapor pressure (at 20 °C):	No information available
Density at -183 °C:	1.14 g/cm <sup>3</sup>
Evaporation rate:	No information available
Partition coefficient: n-octanol/water:	No information available
Viscosity, dynamic:	No information available

## 10. STABILITY AND REACTIVITY

---

### 10.1 Reactivity

See section 10.3

### 10.2 Chemical stability

Stable at recommended conditions.

### 10.3 Possibility of hazardous reactions

Can react violently with combustible materials. Can react violently with reducing agents. Can violently oxidize organic material. Ignition hazard when in contact with organic materials (oils or fats)

### 10.4 Conditions to avoid

The generally known reaction partners of oxygen.

### 10.5 Incompatible materials

Phosphorus, Organic materials (oils or fats), Powdered metals

### 10.6 Hazardous decomposition products

No information available.

## 11. TOXICOLOGICAL INFORMATION

---

### 11.1 Information on toxicological effects

Longer inhalation of high concentrations of oxygen (greater than 75 mol %) can lead to death.

## 12. ECOLOGICAL INFORMATION

---

Not required

## 13. DISPOSAL CONSIDERATIONS

---

### 13.1 Waste Treatment methods

Drain in a well-ventilated place in the atmosphere

### 13.2 Contaminated packaging

Transportable cylinders (empty, residual pressure): Return to supplier / manufacturer.

## 14. TRANSPORT INFORMATION

---

### 14.1 UN-Number

ADR/RID, IMDG, IATA: 1072

### 14.2 UN proper shipping name

ADR/RID: OXYGEN, COMPRESSED

IMDG: OXYGEN, COMPRESSED

IATA: Oxygen, compressed

# SAFETY DATA SHEET

according to regulation (EG) Nr. 1907/2006

Printing date: 19.09.2013

Revision date: 14.12.2016



Version: 4

---

## **14.3 Transport hazard class(es)**

ADR/RID, IMDG, IATA: 2.2 (5.1)

## **14.4 Packing group**

ADR/RID, IMDG, IATA: ---

## **14.5 Environmental hazards:**

ADR/RID, IMDG, IATA: No

## **14.6 Special precautions for user**

ADR/RID, IMDG, IATA: No information available.

## **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:**

No

## **15. REGULATORY INFORMATION**

---

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

No information available.

### **15.2 Chemical safety assessment**

A Chemical Safety Assessment has not been carried out.

## **16. OTHER INFORMATION**

---

### Disclaimer

Product is supplied for research and laboratory use only. Not for drug, household or other uses.

### Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. See reverse side of invoice or packing slip for additional terms and conditions of sale.