

## Safety data sheet Oxygen, compressed.

Creation date : 27.01.2005  
Revision date : 04.01.2011

Version : 2.0

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

#### Product name

Oxygen, compressed.  
EC No (from EINECS): 231-956-9  
CAS No: 7782-44-7  
Index-Nr. 008-001-00-8

#### Chemical formula O<sub>2</sub>

#### REACH Registration number:

Listed in Annex IV/V of Regulation (EC) No 1907/2006 (REACH), exempted from registration.

#### Known uses

Not known.

#### Company identification

Linde AG, Linde Gas Division, Seitnerstraße 70, D-82049 Pullach  
E-Mail Address Info@de.linde-gas.com  
Emergency phone numbers (24h): 089-7446-0

### 2 HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

#### Classification acc. to Regulation (EC) No 1272/2008/EC (CLP/GHS)

Press. Gas (Compressed gas) - Contains gas under pressure; may explode if heated.  
Ox. Gas 1 - May cause or intensify fire; oxidiser.

#### Classification acc. to Directive 67/548/EEC & 1999/45/EC

O; R8

Contact with combustible material may cause fire.

#### Risk advice to man and the environment

Compressed gas.

#### Label Elements

#### - Labelling Pictograms



#### - Signal word

Danger

#### - Hazard Statements

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

#### - Precautionary Statements

#### Precautionary Statement Prevention

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

#### Precautionary Statement Reaction

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

#### Precautionary Statement Storage

P403 Store in a well-ventilated place.

#### Precautionary Statement Disposal

None.

### 3 COMPOSITION/INFORMATION ON INGREDIENTS

**Substance/Preparation:** Substance.

#### Components/Impurities

Oxygen, compressed.

**CAS No:** 7782-44-7

**Index-Nr.:** 008-001-00-8

**EC No (from EINECS):** 231-956-9

#### REACH Registration number:

Listed in Annex IV/V of Regulation (EC) No 1907/2006 (REACH), exempted from registration.

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

### 4 FIRST AID MEASURES

#### Inhalation

Continuous inhalation of concentrations higher than 75% may cause nausea, dizziness, respiratory difficulty and convulsion. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

#### Ingestion

Ingestion is not considered a potential route of exposure.

### 5 FIRE FIGHTING MEASURES

#### Specific hazards

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

#### Hazardous combustion products

None.

#### Suitable extinguishing media

All known 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.

#### Environmental precautions

Try to stop release. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

#### Clean up methods

Ventilate area.

### 7 HANDLING AND STORAGE

#### Handling

Use no oil or grease. Suck back of water into the container must be prevented. 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 handling instructions. Lines, which are attached directly to oxygen cylinders or oxygen bundles, should consist of metal. Hoses from rubber or plastics are fire-endangered with oxygen pressures over 30 bar.

#### Storage

Secure cylinders to prevent them falling. Segregate from flammable gases and other flammable materials in store. Keep container below

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50°C in a well ventilated place. Observe "Technische Regeln Druckgase (TRG) 280 Ziffer 5"

### 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Personal protection

Do not smoke while handling product. Wear suitable hand, body and head protection. Wear goggles with suitable filter lenses when use is cutting/welding. Avoid oxygen rich (>23%) atmospheres. Ensure adequate ventilation.

### 9 PHYSICAL AND CHEMICAL PROPERTIES

#### General information

**Appearance/Colour:** Colourless gas.

**Odour:** No odour warning properties.

#### Important information on environment, health and safety

**Molecular weight:** 32 g/mol

**Melting point:** -219 °C

**Boiling point:** -183 °C

**Critical temperature:** -118 °C

**Autoignition temperature:** Not applicable.

**Flammability range:** Not applicable.

**Relative density, gas:** 1,1

**Relative density, liquid:** Not applicable.

**Solubility mg/l water:** 39 mg/l

**Maximum filling pressure (bar):** 300 bar

#### Other data

Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

### 10 STABILITY AND REACTIVITY

#### Stability and reactivity

May react violently with combustible materials. May react violently with reducing agents. Violently oxidises organic material.

### 11 TOXICOLOGICAL INFORMATION

#### General

No known toxicological effects from this product.

#### Acute toxicity

After the "conventional computation method of the EC/1999/45" classified.

### 12 ECOLOGICAL INFORMATION

#### General

No ecological damage caused by this product.

### 13 DISPOSAL CONSIDERATIONS

#### General

May be vented 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.

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### 14 TRANSPORT INFORMATION

#### ADR/RID

Class 2 Classification Code 10

#### UN number and proper shipping name

UN 1072 Oxygen, compressed

UN 1072 Oxygen, compressed

Labels 2.2, Hazard number 25

5.1

Packing Instruction P200

#### IMDG

Class 2.2

#### UN number and proper shipping name

UN 1072 Oxygen, compressed

Labels 2.2,

5.1

Packing Instruction P200

EmS FC, SW

#### IATA

Class 2.2

#### UN number and proper shipping name

UN 1072 Oxygen, compressed

Labels 2.2,

5.1

Packing Instruction P200

#### 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. Ensure that the cylinder valve is closed and not leaking. Ensure that the valve outlet cap nut or plug (where provided) is correctly fitted. Ensure that the valve protection device (where provided) is correctly fitted. Ensure adequate ventilation. Ensure compliance with applicable regulations.

### 15 REGULATORY INFORMATION

#### Further national regulations

Pressure Vessel Regulation

Regulations for the prevention of industrial accidents

Gefahrstoffverordnung (GefStoffV)

Technische Regeln für Gefahrstoffe (TRGS)

#### Water pollution class

Not polluting to waters according to VwVwS from 27.07.2005.

#### TA-Luft

Not classified according to TA-Luft.

### 16 OTHER INFORMATION

Ensure all national/local regulations are observed. Ensure operators understand the flammability hazard. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

#### Advice

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. Details given in this document are believed to be correct at the time of going to press.

#### Further information

Linde safety advice

No. 4 Oxygen enrichment

No. 7 Safe handling of gas cylinders and cylinder bundles

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No. 11      Transport of gas receptacles in vehicles

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