

## Safety data sheet Oxygen, refrigerated liquid.

Creation date : 27.01.2005  
Revision date : 20.12.2010

Version : 1.3

DE / E

SDS No. : 8341  
page 1 / 2

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

#### Product name

Oxygen, refrigerated liquid.  
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 - Contains refrigerated gas; may cause cryogenic burns or injury.  
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

Refrigerated liquefied gas. Contact with product may cause cold burns or frostbite.

#### Label Elements

#### - Labelling Pictograms



#### - Signal word

Danger

#### - Hazard Statements

H281 Contains refrigerated gas; may cause cryogenic burns or injury.  
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.  
P282 Wear cold insulating gloves/face shield/eye protection.

#### Precautionary Statement Reaction

P370 + P376 In case of fire: Stop leak if safe to do so.  
P336+P315 Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate

medical advice/attention.

#### Precautionary Statement Storage

P403 Store in a well-ventilated place.

#### Precautionary Statement Disposal

### 3 COMPOSITION/INFORMATION ON INGREDIENTS

**Substance/Preparation:** Substance.

#### Components/Impurities

Oxygen, refrigerated liquid.

**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.

#### Skin/eye contact

Immediately flush eyes thoroughly with water for at least 15 minutes. In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.

#### Ingestion

Ingestion is not considered a potential route of exposure.

### 5 FIRE FIGHTING MEASURES

#### Specific hazards

Supports combustion. Exposure to fire may cause containers to rupture/explode. 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. Eliminate ignition sources. Use protective clothing.

#### Environmental precautions

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

#### Clean up methods

Ventilate area. Keep area evacuated and free from ignition sources until any spilled liquid has evaporated. (Ground free from frost).

### 7 HANDLING AND STORAGE

#### Handling

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page 2 / 2

Use no oil or grease. 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 handling instructions.

**Storage**

Avoid asphalted locations for storage and use (ignition risk if spilt). Keep container below 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. Avoid oxygen rich (>23%) atmospheres. Ensure adequate ventilation. Protect eyes, face and skin from liquid splashes.

**9 PHYSICAL AND CHEMICAL PROPERTIES****General information**

**Appearance/Colour:** Bluish liquid

**Odour:** None.

**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:** 1,1

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

**10 STABILITY AND REACTIVITY****Stability and reactivity**

May react violently with combustible materials. May react violently with reducing agents. Violently oxidises organic material. Liquid spillages can cause embrittlement of structural materials. Risk of explosion if spilt on organic structural materials (eg wood or asphalt).

**11 TOXICOLOGICAL INFORMATION****General**

No known toxicological effects from this product.

**12 ECOLOGICAL INFORMATION****General**

Can cause frost damage to vegetation.

**13 DISPOSAL CONSIDERATIONS****General**

Do not discharge into any place where its accumulation could be dangerous. Contact supplier if guidance is required.

**EWC Nr. 16 05 04\***

**14 TRANSPORT INFORMATION****ADR/RID**

Class 2 Classification Code 30

**UN number and proper shipping name**

UN 1073 Oxygen, refrigerated, liquid

UN 1073 Oxygen, refrigerated, liquid

Labels 2.2, 5.1 Hazard number 225

Packing Instruction P203

**IMDG**

Class 2.2

**UN number and proper shipping name**

UN 1073 Oxygen, refrigerated, liquid

Labels 2.2, 5.1

Packing Instruction P203

EmS FC, SW

**Other transport information**

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. Ensure adequate ventilation. Avoid transport on vehicles where the load space is not separated from the driver's compartment. Before transporting product containers ensure that they are firmly secured. Ensure compliance with applicable regulations.

**15 REGULATORY INFORMATION****Further national regulations**

Regulations for the prevention of industrial accidents

Pressure Vessel Regulation

Technische Regeln für Gefahrstoffe (TRGS)

Gefahrstoffverordnung (GefStoffV)

**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.

**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. 1 Handling of refrigerated liquid gases

No. 4 Oxygen enrichment

No. 11 Transport of gas receptacles in vehicles

End of document