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 O2
REACH Registration number:

Known uses
Not known.

Company identification
Linde AG, Linde Gas Division, Seinerstraße 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.

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

3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation: Substance.
Components/Impurities
Oxygen, compressed.
CAS No: 7782-44-7
Index-Nr.: 008-001-00-8
REACH Registration number:

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/expplode. 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
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.

14 TRANSPORT INFORMATION

ADR/RID
Class 2
Classification Code 1O
UN number and proper shipping name
UN 1072 Oxygen, compressed
UN 1072 Oxygen, compressed
Labels 2.2, 5.1
Hazard number 25
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
No. 11  Transport of gas receptacles in vehicles

End of document