

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

1.1 Product Identifier

Product Name : Oxygen
Chemical formula : O₂
REACH : Listed in Annex IV/V of
Registration number (REACH),exempted
 from registration.
EC No (from EINECS) : 231-956-9
CAS No : 7782-44-7

1.2 Supplier of the SDS

Company Identification : Thai Gas Product
 Ltd.,Pt.
 Muang, Rayong,
 Thailand
E-Mail : contact@tgpgas.com
Emergency phone number : 038-611050
 (Mon-Sat 08:00-17:00)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008/EC (CLP/GHS)

Press. Gas (Compressed gas)
 H280: Contains gas under pressure; may explode if heated.

Ox. Gas 1
 H270: May cause or intensify fire; oxidiser.

Classification according to Directive 67/548/EEC & 1999/45/EC

O Oxidising
 R8 Contact with combustible material may cause fire.

2.2 Label Elements

- Hazard Pictograms



- Signal word

Danger

-Hazard Statements

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

- Precautionary Statements

Prevention

P220 Keep away from 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.

Disposal

None.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Substance.

Components : Oxygen
CAS No : 7782-44-7
Index No : 008-001-00-8
EC No (from EINECS): 231-956-9
Index No : 008-001-00-8
REACH : Listed in Annex IV/V of
Registration No. (REACH),exempted from registration.

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

4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation

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.

Skin/Eye contact

Adverse effects not expected from this product.

4.2 Most important symptoms and effects, both acute and delayed

Continuous inhalation of concentrations higher than 75% may cause nausea, dizziness, respiratory difficulty and convulsion.

4.3 Indication of any immediate medical attention and special treatment needed

None.

5. FIRE FIGHTING MEASURES

5.1 Special hazards arising from the substance or mixture

Specific hazards

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

Hazardous combustion products

None.

5.2 Extinguishing media

Suitable extinguishing media

All known extinguishants can be used.

5.3 Advice for fire-fighters

Specific methods

If possible, stop flow of product.
Move cylinder away or cool with water from a protected position.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions

Evacuate area.
Ensure adequate air ventilation.
Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

Eliminate ignition sources.
Monitor concentration of released product.

6.2 Environmental precautions

None.

6.3 Clean-up methods

Ventilate area.

7. HANDLING AND STORAGE

7.1 Handling

Use no oil or grease.
Suck back of water into the cylinder must be prevented.
Use only properly specified equipment which is suitable for this product, its supply pressure and temperature.
Keep away from ignition sources (including static discharges).
Use only with equipment cleaned for oxygen service and rated for cylinder pressure.
Do not smoke while handling product.
Only experienced and properly instructed persons should handle gases under pressure.
Protect cylinders from physical damage; do not drag, roll, slide or drop.
Never use direct flame or electrical heating devices to raise the pressure of a cylinder.
Do not remove or deface labels provided by the supplier for the identification of the cylinder contents.
When moving cylinders, even for short distances, use appropriate equipment eg. trolley, hand truck, fork truck etc.
Leave valve protection caps in place until the cylinder has been secured against either a wall or bench or placed in a cylinder stand and is ready for use.
Ensure the complete gas system has been (or is regularly) checked for leaks before use.
If user experiences any difficulty operating cylinder valve discontinue use and contact supplier.
Close cylinder valve after each use and when empty, even if still connected to equipment.
Never attempt to repair or modify cylinder valves or safety relief devices.
Damaged valves should be reported immediately to the supplier.
Replace valve outlet caps or plugs and cylinder caps where supplied as soon as cylinder is disconnected from equipment.
Keep cylinder valve outlets clean and free from contaminants particularly oil and water.
Never attempt to transfer gases from one cylinder to another.

Use only oxygen approved lubricants and oxygen approved sealings.

Keep equipment free from oil and grease.

Open valve slowly to avoid pressure shock.

Do not allow backfeed into the cylinder.

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

Lines, which are attached directly to oxygen cylinders or oxygen bundles, should consist of metal.

7.2 Storage

Secure cylinders to prevent them from falling.

Segregate from flammable gases and other flammable materials in store.

Keep cylinder below 50°C in a well ventilated place.

Observe all regulations and local requirements regarding storage of cylinders.

Cylinders should not be stored in conditions likely to encourage corrosion.

Cylinders should be stored in the vertical position and properly secured to prevent falling over.

Stored cylinders should be periodically checked for general conditions and leakage.

Cylinder valve guards or caps should be in place.

Store cylinders in location free from fire risk and away from sources of heat and ignition.

Keep away from combustible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Appropriate engineering controls

Avoid oxygen rich (>23.5%) atmospheres.

Provide adequate general and local ventilation.

Systems under pressure should be regularly checked for leakages.

Consider the use of a work permit system, e.g. for maintenance activities.

Gas detectors should be used when oxidizing gases may be released.

8.2 Respiratory protection

Not required

8.3 Personal protection

Do not smoke while handling product.

Wear suitable hand, body and head protection.

Wear working gloves and safety shoes while handling cylinders.

Wear safety glasses with side shields.

Wear goggles with suitable filter lenses when use is cutting/welding.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 General information

Appearance/Colour: Colourless gas.

Odour: None.

9.2 Important information on environment, health and safety

Molecular weight: 32 g/mol

Melting point: -219 °C

Boiling point: -183 °C

Critical temperature: -118 °C

Flash point: Not applicable for gases and gas mixtures.

Auto ignition temperature: Not applicable.

Flammability range: Non flammable.

Relative density, gas (Air=1): 1, 1

Relative density, liquid (Water=1): 1, 1

Vapour Pressure 20 °C: Not applicable.

Solubility in water: 39 mg/l

Other data:

Gas/vapour heavier than air.

May accumulate in confined spaces, particularly at or below ground level.

10. STABILITY AND REACTIVITY

10.1 Stability

Stable under normal conditions.

10.2 Reactivity

May react violently with combustible materials.

May react violently with reducing agents.

Violently oxidises organic material.

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Consider the potential toxicity hazard due to the presence of chlorinated or fluorinated polymers in high pressure (>30 bars) oxygen lines in case of combustion.

11. TOXICOLOGICAL INFORMATION

No known toxicological effects from this product.

12. ECOLOGICAL INFORMATION

No ecological damage caused by this product.

13. DISPOSAL CONSIDERATIONS

Do not discharge into any place where its accumulation could be dangerous.
Contact supplier if guidance is required.
Vent to atmosphere in a well ventilated place.
Consult supplier for specific recommendations.

14. TRANSPORT INFORMATION

UN number : 1072
Proper shipping name : Oxygen, compressed
Class : 2
Classification Code : 1 0
Hazard Labels : 2.2 (Non flammable,non-toxic gases)
5.1 (Oxidising substances)
Hazard ID number : 25
Packing Instruction : P200

Tunnel restriction code : E

IMDG emergency schedule-fire : F-C

IMDG emergency schedule-spillage : S-W

Environmental hazard : None

Special provision : None

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 cylinders 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

Safety, healthy and environmental regulations/legislation specific for the substance or mixture : Ensure all national/local regulations are observed.

16. OTHER INFORMATION

16.1 Training advices

Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.
Ensure operators understand the hazard of oxygen enrichment.

16.2 Disclaimer

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.

This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws.