



NIG Gases Sdn. Bhd.

Material Safety Data Sheet

Introduction Details

Date of preparation : 31/10/2007

Oxygen, Compressed Gas

SECTION 1 : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Details

Product Name : Oxygen, Compressed Gas

Trade Name /Synonyms: Oxygen, Dioxygen, Molecular Oxygen, Oxygen molecule; Pure O₂, O₂

Chemical Name : Oxygen

Chemical Formula : O₂

Molar Mass : 31.9988

Chemical Family : Inorganic, gas

1.2 Company Identification

Manufacturer's Name : NIG Gases Sdn. Bhd.

Distributor's Address : Lot PT 5074 & 5075, Jalan Jangur 28/43,
Seksyen 28, 40400 Shah Alam, Selangor.

Emergency telephone Number :03-55228222 (Hunting Line) / 03-55228288 (Hotline)

1.3 Contact Point

Designation :How Hui Shi (QA) 03-55228272 / 012-9155197

Johnny Yong (Production Manager) 03-55228255 / 012-3328937

Tan Kean Hooi (General Manager) 03-55228280 / 012-2055815

SECTION 2 : COMPOSITION / INFORMATION ON INGREDIENT

Chemical Name: Oxygen

CAS No. : 7782-44-7

Proportion : 99.5-100%

SECTION 3 : PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Colourless, Tasteless

Odour : Odourless

Solubility : 3.2% at 25°C in water

Boiling Point : -182.96°C

Melting Point : -218.65°C

Vapour pressure : No liquid phase at 25°C

Percentage Volatiles : Not applicable

Evaporation Rate : Not applicable

Vapour Density : 1.1 (air = 1)

Specific Gravity : 1.309 G/I at 25°C

Flash Point : Not applicable

Autoignition Temperature: Non Flammable

Flammable Limit : Non Flammable

SECTION 4 : HAZARD IDENTIFICATION

Major health hazards : No significant target effects reported.

Physical Hazards : Containers may rupture or explode if exposed to heat. May ignite combustibles.

Ingestion : No information on significant adverse effects

Eye contact : Short term exposure – Irritation

Long term exposure – No information on significant adverse effects

Skin contact : No information on significant adverse effects

Inhalation : Short term exposure – change in body temperature (hypothermia), nausea, respiratory difficulties, dizziness, irregular heartbeat, convulsions, tremors, fainting spells, disorientation, lung congestion

Long term exposure – Irritation, chest pain, lung damage

SECTION 5 : FIRST AID MEASURES

- Ingestion : No applicable to gases
- Eye contact : Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains. Get medical attention immediately.
- Skin contact : Wash exposed skin with soap and water.
- Inhalation : Remove victim/s from source of contamination, to fresh air. Keep victim warm, comfortable and rested. Recovery should be rapid upon removal from exposure, but monitor victim/s breathing. If breathing distress apparent, Expired Air resuscitation and CPR is pulse is absent and send for medical assistance immediately.
- Advice to doctor : Treatment for hyperoxia

SECTION 6 : FIRE FIGHTING MEASURES

- Extinguishing Media : Carbon dioxide, regular dry chemical
Large fire – Use regular foam or flood with fine water spray.
- Fire fighting instruction : Move cylinder from fire is safe to do so. Cool cylinder with water spray until well after the fire is out. Stay away from the end of tanks. For fires in cargo or storage area: Cool containers with water from manned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Use extinguishing agents appropriate for surrounding fire. Cool cylinders with water. Apply water from a protected location or from a safe distance.
- Special hazards : Oxygen is non-flammable, but container may rupture when heated.

SECTION 7 : ACCIDENTAL RELEASE MEASURE

- Leak / Spill : Avoid contact with combustible materials. Stop leak if possible without personal risk. Leak checking may be done by pressure drop test or by using soapy water joints and outlets. Shut cylinder valve to stop gas leaks from equipment if possible and safe to do so. If cylinder or cylinder valve is leaking, the put on personal protective equipment, shut the cylinder valve depressurize the equipment, disconnect cylinder from equipment and move the cylinder to a well ventilated area, preferably out door and position to allow gas to escape. If possible, repair the leak or allow the cylinder to vent in external atmosphere. Mark empty cylinders “defective”. Return all faulty cylinders to supplier/manufacturer.

SECTION 8 : HANDLING AND STORAGE

Handling : Use no oil or grease, no smoking or naked light. Check for leaks after pressurizing system and prior to start any operation. Open cylinder valve slowly, to avoid pressure shock and close when not in use. Suck back of water must be prevented.

Storage : Cylinders should be stored in a dry, fire resistant area that is well ventilated and away from heat and ignition sources. Oxygen should be stored away from flammable gases. Cylinders shall not be exposed to temperature above 55°C.

SECTION 9 : EXPOSURE CONTROL AND PERSONAL PROTECTION

Exposure Limit : No exposure standards have been established by OSHA, ACGIH or NIOSH

Personal protection: Eye protection – not required but recommended

Glove – not required

Footwear – personnel engaged in the movement of gas cylinders shall be provided with safety footwear.

SECTION 10 : STABILITY AND REACTIVITY

Reactivity : Stable at normal temperatures and pressure.

Condition to avoid : Avoid use oil or grease on valves or gages intended for O₂ cylinders.

Incompatibles : Halo carbons, combustible materials, metals, reducing agents, bases, amines, metal salts, oxidizing material.

Hazardous polymerization : Will not occur at normal temperatures and pressure.

SECTION 11 : TOXICOLOGICAL INFORMATION

Mutagenic Data : Available

Acute toxicity level : Insufficient Data

Carcinogenicity : No

Reproductive effect : Available

Chronic effects : Exposure at normal or elevated pressure may cause severe thickening and scarring of lung tissues.

SECTION 12 : ECOLOGICAL INFORMATION

No known ecological damage caused by this product

SECTION 13 : DISPOSAL INFORMATION

General : 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.

Disposal of packaging : Must only be handled by the gas supplier.

SECTION 14 : TRANSPORT INFORMATION

UN Number : UN1072

Hazard class / Div : 2.2 (Non flammable gas)

Subsidiary Risk : 5.1 (Oxidizing agent)

Packaging & Labeling : High pressure cylinders.

Colour – Black

SECTION 15 : REGULATORY INFORMATION

Risk Phrases : R8 Strongly supports combustion

Safety Phrases : S9 Keep container in well-ventilated place.

S16 Keep away from sources of ignition.

S17A Keep away from combustible material uses no oil or grease.

SECTION 16 : OTHER INFORMATION

NFPA Ratings:

Health = 3

Flammability = 0

Reactivity = 0

Special = OX (Oxidizer)