



SC INDUSTRIAL GAS

MANUFACTURERS LTD

MATERIAL SAFETY DATA SHEET

OXYGEN GAS

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name OXYGEN GAS
UN NO UN 1072
Recommended Use INDUSTRIAL USE ONLY
Synonyms OXYGEN COMPRESSED, GASEOUS OXYGEN, GOX,
OXYGEN GAS
Manufacturer S C INDUSTRIAL GAS MANUFACTURERS LTD
KM 3,IGBO-ETCHE ROAD, OFF ELEME JUNCTION,
PORT HARCOURT, RIVERS STATE.
Emergency Telephone No **084799837, 08033061842**

2. HAZARDS IDENTIFICATION

Emergency Overview HIGH PRESSURE, OXIDIZER,
VIGOROUSLY ACCELERATES COMBUSTION
KEEP COMBUSTIBLE MATERIALS, OIL, GREASE
AWAY
KEEP AT TEMPERATURES BELOW 52C/125F

Potential Health Effects

Routes of Exposure INHALATION

Inhalation BREATHING PURE OXYGEN UNDER PRESSURE
MAY CAUSE LUNG
DAMAGE AND CENTRAL NERVOUS SYSTEM
EFFECTS, DIFFICULTY
IN BREATHING, DIZZINESS

Chronic Effects BREATHING 75% OR MORE OXYGEN AT
ATMOSPHERIC PRESSURE
MORE THAN A FEW HOURS MAY CAUSE
TIREDNESS OF RESPIRATORY IRRITATION, NASAL
STUFFINESS, COUGH, SORE THROAT, CHEST PAIN

Eye contact NO ADVERSE EFFECT

Skin contact NO ADVERSE EFFECT

Ingestion INGESTION IS NOT CONSIDERED A POTENTIAL ROUTE OF
EXPOSURE

**Aggravated Medical
Condition** ACUTE OR CHRONIC RESPIRATORY CONDITIONS MAY BE
AGGRAVATED BY OVEREXPOSURE TO THIS GAS

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Concentration	Formula
Oxygen	7782-44-7	100%	O ₂

CONCENTRATION IS NOMINAL. FOR EXACT PRODUCT COMPOSITION, REFER TO OUR TECHNICAL SPECIFICATIONS.

4. FIRST AID MEASURES

NO ACTION SHALL BE TAKEN INVOLVING ANY PERSONAL RISK OR WITHOUT SUITABLE TRAINING. IF IT IS SUSPECTED THAT FUMES ARE STILL PRESENT, THE RESCUER SHOULD WEAR AN APPROPRIATE MASK OR SELF-CONTAINED BREATHING APPARATUS. IT MAY BE DANGEROUS TO THE PERSON PROVIDING AID TO GIVE MOUTH TO MOUTH RESUSCITATION.

GENERAL ADVICE

REMOVE VICTIM TO UNCONTAMINATED AREA WEARING SELF CONTAINED BREATHING APPARATUS. KEEP VICTIM WARM AND RESTED. CALL A DOCTOR. APPLY ARTIFICIAL RESPIRATION IF BREATHING STOPPED.

EYECONTACT SEEK MEDICAL ADVICE

SKIN CONTACT SEEK MEDICAL ADVICE

INGESTION INGESTION IS NOT CONSIDERED A POTENTIAL ROUTE OF EXPOSURE

INHALATION CONSULT A PHYSICIAN AFTER SIGNIFICANT EXPOSURE. MOVE TO FRESH AIR. IF BREATHING HAS STOPPED OR IS LABOURED, GIVE ASSISTED RESPIRATION. SUPPLEMENTAL OXYGEN MAY BE INDICATED. IF THE HEART HAS STOPPED, TRAINED PERSONNEL SHOULD BEGIN CARDIOPULMONARY RESUSCITATION IMMEDIATELY.

5. FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING

MEDIA ALL KNOWN EXTINGUISHING MEDIA CAN BE USED.

FLAMMABLE PROPERTIES OXIDIZER. MAY VIGOROUSLY ACCELERATE COMBUSTION. SOME MATERIALS THAT ARE NONCOMBUSTIBLE IN AIR WILL BURN IN THE PRESENCE OF AN OXYGEN ENRICHED ATMOSPHERE (GREATER THAN 23.5%). FIRE RESISTANT CLOTHING MAY BURN AND OFFER NO PROTECTION IN OXYGEN RICH ATMOSPHERES.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTION ENSURE ADEQUATE VENTILATION. MONITOR OXYGEN LEVEL. STAY AWAY FROM IGNITION SOURCES. EVACUATE PERSONNEL TO SAFE AREA. ELIMINATE ALL IGNITION SOURCES IF SAFE TO DO SO. SHUT OFF GAS SUPPLY IF THIS CAN BE DONE SAFELY. ISOLATE AREA UNTIL GAS HAS DISPERSED.

ENVIRONMENTAL PRECAUTION

PREVENT SPREADING OF VAPORS THROUGH SEWERS, VENTILATION SYSTEMS AND CONFINED AREAS, WATERWAYS. DO NOT DISCHARGE INTO ANY PLACE WHERE ITS ACCUMULATION COULD BE DANGEROUS.

METHODS FOR CLEANING VENTILATE THE AREA. NOTIFY THE COMPANY AND RETURN THE CYLINDER TO S C GAS .

METHODS FOR CONTAINMENT

STOP THE FLOW OF GAS OR REMOVE CYLINDER TO OUTDOOR LOCATION IF THIS CAN BE DONE WITHOUT RISK. CONTACT THE EMERGENCY TELEPHONE NUMBER IN SECTION 1.

7. HANDLING AND STORAGE

HANDLING

HIGH PRESSURE GAS.USE EQUIPMENT RATED FOR CYLINDER PRESSURE.CLOSE VALVE AFTER USE AND WHEN EMPTY. AVOID CONTACT WITH COMBUSTBLE MATERIALS, OIL, AND GREASE. PROTECT CYLINDERS FROM PHYSICAL DAMAGE, DO NOT DRAG, ROLL, SLIDE, OR DROP. DO NOT USE CYLINDER AS ROLLER FOR SHIFTING HEAVY MATERIAL OR EQUIPMENT.

DO NOT ALLOW STORAGE AREA TEMPERATURE TO EXCEED 50 C (122 F).

OXYGEN SHOULD NOT BE USED AS A SUBSTITUTE FOR COMPRESSED AIR IN PNEUMATIC EQUIPMENT SINCE THEY GENERALLY CONTAIN FLAMMABLE LUBRICANTS.

DO NOT REMOVE OR DEFACE LABELS PROVIDED BY THE SUPPLIER FOR THE IDENTIFICATION OF THE CYLINDER CONTENTS.

NEVER PUT CYLINDERS INTO TRUNKS OF CARS OR UNVENTILATED AREAS OF PASSENGER VEHICLES.

NEVER STRIKE AN ARC ON A COMPRESSED GAS CYLINDER OR MAKE A CYINDER A PART OF AN ELECTRICAL CIRCUIT.

NEVER REPAIR THE COMPRESSED GAS CYLINDER, COVER THE DENTS BY WELDING, AND BODY FILLER.

NEVER DEFACE THE CYLINDER SPECIFICATIONS STAMPED ON THE BODY OF THE CYLINDER.

FOR ADDITIONAL RECOMMENDATION, CONSULT COMPRESSED GAS ASSOCIATION'S PAMPHLETS.

STORAGE

CYLINDERS SHOULD BE STORED UPRIGHT WITH VALVE PROTECTION CAP IN PLACE AND FIRMLY SECURED TO PREVENT FALLING.

STORE IN COOL, DRY, WELL-VENTILATED AREA OF NON-COMBUSTIBLE CONSTRUCTION AWAY FROM HEAVILY TRAFFICKED

AREAS AND EMERGENCY EXITS. FULL AND EMPTY CYLINDERS SHOULD BE SEGREGATED.

KEEP AT TEMPERATURE BELOW 52 C/125 F. USE A FIRST IN-FIRST OUT INVENTORY SYSTEM TO AVOID FULL CYLINDERS FROM BEING STORED FOR EXCESSIVE PERIODS OF TIME.

EXIBITE “**NO SMOKING OR NACKED FLAMES**” SIGNS IN THE STORAGE AREAS.

FLAMMABLE STORAGE AREAS SHOULD BE SEPARATED FROM OXYGEN AND OTHER OXIDIZERS BY A MINIMUM DISTANCE OF 20 FEET OR AND BY A BARRIER OF NON-COMBUSTIBLE MATERIAL AT LEAST 5 FEET HIGH, HAVING A FIRE RESISTANCE RATING OF AT LEAST ½ HOUR.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS USE ONLY WITH ADEQUATE VENTILATION. USE PROCESS ENCLOSURES, LOCAL EXHAUST VENTILATION OR OTHER ENGINEERING CONTROLS TO KEEP WORKER EXPOSURE TO AIRBORNE CONTAMINANTS BELOW ANY RECOMMENDED OR STATUTORY LIMITS.

ENGINEERING MEASURES VENTILATION SYSTEMS, EYEWASH STATIONS, SHOWERS.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE SAFETY EYEWEAR COMPLYING WITH AN APPROVED STANDARD SHOULD BE USED

SKIN PERSONAL PROTECTIVE EQUIPMENTS, SAFETY SHOES AND HAND GLOVES ARE RECOMMENDED WHEN HANDLING CYLINDERS. GLOVES MUST BE CLEAN AND FREE FROM OIL & GREASE.

RESPIRATORY HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICE. NO SPECIAL PROTECTIVE EQUIPMENT REQUIRED.

9. PHYSICAL AND CHEMICAL PROPERTIES

MOLECULAR FORMULA	O ₂	MOLECULAR WEIGHT	32 g/mole
BOILING POINT	-181.1 C	CRITICAL TEMPERATURE	-118.6 C
MELTING/FREEZING POINT	-218.6 C	VAPOR DENSITY	1.105 (AIR = 1)
GAS DENSITY (ft³/lb)	0.083	SPECIFIC VOLUME	12.08 ft ³ /lb
WATER SOLUBILITY	0.039g/l	CRITICAL PRESSURE	731.4 psia
APPEARANCE	COLOURLESS	ODOR	ODORLESS

10. STABILITY AND REACTIVITY

STABILITY	THE PRODUCT IS STABLE UNDR NORMAL CONDITIONS.
INCOMPATIBILITY WITH VARIOUS SUBSTANCES	EXTREMELY REACTIVE OR INCOMPATIBLE WITH THE FOLLOWING MATERIALS: OXIDIZING MATERIALS, REDUCING MATERIALS AND COMBUSTIBLE MATERIALS.
HAZARDOUS DECOMPOSITION PRODUCTS	UNDER NORMAL CONDITIONS OF STORAGE AND USE, HAZARDOUS DECOMPOSITION PRODUCTS SHOULD NOT BE PRODUCED.
HAZARDOUS POLYMERIZATION	UNDER NORMAL CONDITIONS OF STORAGE AND USE, HAZARDOUS POLYMERIZATION WILL NOT OCCUR.
MATERIALS TO AVOID	FLAMMABLE MATERIALS ORGANIC MATERIALS OIL, GREASE AND ALL OTHER COMBUSTIBLE MATERIALS.

11. TOXICOLOGICAL INFORMATION

ACUTE HEALTH HAZARD

INGESTION	NO DATA IS AVAILABLE ON THE PRODUCT ITSELF
INHALATION	NO DATA IS AVAILABLE ON THE PRODUCT ITSELF
SKIN	NO DATA IS AVAILABLE ON THE PRODUCT ITSELF

CHRONIC HEALTH HAZARD

PREMATURE INFANTS EXPOSED TO HIGH OXYGEN CONCENTRATIONS MAY SUFFER DELAYED RETINAL DAMAGE THAT CAN PROGRESS TO RETINAL DETACHMENT AND BLINDNESS. RETINAL DAMAGE MAY ALSO OCCUR IN ADULTS EXPOSED TO 100% OXYGEN FOR EXTENDED PERIODS (24 TO 48 HRS). AT TWO OR MORE ATMOSPHERES CENTRAL NERVOUS SYSTEM (CNS) TOXICITY OCCURS. SYMPTOMS INCLUDE NAUSEA, VOMITING, DIZZINESS OR VERTIGO, MUSSCLE TWITCHING, VISION CHANGES AND LOSS OF CONSCIOUSNESS AND GENERALISED SEIZURES. THREE ATMOSPHERES, CNS TOXICITY OCCURS IN LESS THAN TWO HOURS AND AT SIX ATMOSPHERES IN ONLY A FEW MINUTES.

12. ECOLOGICAL INFORMATION

ECOTOXICITY EFFECTS

AQUATIC TOXICITY	NO DATA IS AVAILABLE ON THE PRODUCT ITSELF
TOXICITY TO OTHER ORGANISMS	NO DATA AVAILABLE

FURTHER INFORMATION NO ECOLOGICAL DAMAGE CAUSED BY THIS PRODUCT.

13. DISPOSAL CONSIDERATIONS

PRODUCT REMOVED FROM THE CYLINDER MUST BE DISPOSED OF IN ACCORDANCE WITH APPROPRIATE FEDERAL, STATE, LOCAL REGULATIONS. RETURN CYLINDERS WITH RESIDUAL PRODUCT TO S C INDUSTRIAL GAS MFG LTD. DO NOT DISPOSE OF LOCALLY.

14. TRANSPORT INFORMATION

CLASSIFICATION	UN NUMBER	SHIPPING NAME	CLASS
DOT	UN 1072	OXYGEN COMPRESSED	2.2 (5.1)
TDG	UN 1072	OXYGEN COMPRESSED	2.2 (5.1)
IATA	UN 1072	OXYGEN COMPRESSED	2.2 (5.1)
IMDG/IMO	UN 1072	OXYGEN COMPRESSED	2.2 (5.1)

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. THE TRANSPORTATION INFORMATION IS NOT INTENDED TO CONVEY ALL SPECIFIC REGULATORY DATA RELATING TO THIS PRODUCT. FOR FURTHER TRANSPORTATION INFORMATION, CONTACT S C INDUSTRIAL GAS MFG LTD.

15. REGULATORY INFORMATION

COUNTRY	REGULATORY LIST	NOTIFICATION
USA	TSCA	LISTED
EU	EINECS	LISTED
CANADA	DSL	LISTED
AUSTRALIA	AICS	LISTED
JAPAN	ENCS	LISTED
CHINA	SEPA	LISTED

TSCA – UNITED STATES TOXIC SUBSTANCES CONTROL ACT SECTION 8(b) INVENTORY

DSL – CANADIAN DOMESTIC SUBSTANCES LIST/NON DOMESTIC SUBSTANCES LIST

EINECS – EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES

16. OTHER INFORMATION

LABEL REQUIREMENTS

GAS, COMPRESSED

OXIDIZER

CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE

	HEALTH HAZARD	FLAMMABILITY	STABILITY	SPECIAL
NFPA	0	0	0	OX
HMIS	0	0	3	PERSONAL PROTECTION

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