1. PRODUCT AND COMPANY IDENTIFICATION

Product Name >23.5% OXYGEN In NITROGEN
Product Code(s) G-156
UN-No UN3156
Recommended Use Compressed gas.

Supplier Address*
Linde Gas Puerto Rico, Inc. Las Palmas Village Road No. 869, Street No. 7 Catano, Puerto Rico 00962 Phone: 787-641-7445 www.pr.lindegas.com
Linde Canada Limited 5860 Chedworth Way Mississauga, Ontario L5R 0A2 Phone: 905-501-1700 www.lindecanada.com

* May include subsidiaries or affiliate companies/divisions.

For additional product information contact your local customer service.

Chemical Emergency Phone Number Chemtrec: 1-800-424-9300 for US/ 703-527-3887 outside US

2. HAZARDS IDENTIFICATION

WARNING!

Emergency Overview

Oxidizer
Accelerates combustion and increases risk of fire.
Contents under pressure
Keep at temperatures below 52°C / 125°F

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Colorless</th>
<th>Physical State</th>
<th>Compressed gas.</th>
<th>Odor</th>
<th>Odorless</th>
</tr>
</thead>
</table>

OSHA Regulatory Status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Potential Health Effects
Principle Routes of Exposure

Inhalation.

Acute Toxicity

Inhalation

Do not use as breathing air. Oxygen is not acutely toxic under normal pressure. Oxygen is more toxic when inhaled at elevated pressures. Depending upon pressure and duration of exposure, pure oxygen at elevated pressures may cause cramps, dizziness, difficulty breathing, convulsions, edema and death.

Eyes

None known. Contact with rapidly expanding gas near the point of release may cause frostbite.

Skin

None known. Contact with rapidly expanding gas near the point of release may cause frostbite.

Skin Absorption Hazard

None known hazard in contact with skin.

Ingestion

None known.

Chronic Effects

Prolonged inhalation of high oxygen concentrations (>75%) may affect coordination, attention, and cause tiredness of respiratory irritation.

Aggravated Medical Conditions

None known.

Environmental Hazard

See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Volume %</th>
<th>Chemical Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen</td>
<td>7727-37-9</td>
<td>&lt;= 76.5</td>
<td>N&lt;sub&gt;2&lt;/sub&gt;</td>
</tr>
<tr>
<td>Oxygen</td>
<td>7782-44-7</td>
<td>&gt;= 23.5</td>
<td>O&lt;sub&gt;2&lt;/sub&gt;</td>
</tr>
</tbody>
</table>

Additional information: Composition listed covers broad ranges rather than exact percentages for specific products.

4. FIRST AID MEASURES

Eye Contact

None under normal use. Get medical attention if symptoms occur.

Skin Contact

None under normal use. Get medical attention if symptoms occur.

Inhalation

Move victim to fresh air. Seek immediate medical attention/advice.

Ingestion

None under normal use. Get medical attention if symptoms occur.

Notes to Physician

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable Properties

Oxidizer. May vigorously accelerate combustion.

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data

Sensitivity to Mechanical Impact

None

Sensitivity to Static Discharge

None
Specific Hazards Arising from the Chemical

May ignite combustibles (wood paper, oil, clothing, etc.). High oxygen concentrations vigorously accelerate combustion. Cylinders may rupture under extreme heat. Continue to cool fire exposed cylinders until flames are extinguished. Damaged cylinders should be handled only by specialists.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Ensure adequate ventilation. Monitor oxygen level.

Environmental Precautions

Prevent spreading of vapors through sewers, ventilation systems and confined areas.

Methods for Containment

Stop the flow of gas or remove cylinder to outdoor location if this can be done without risk. If leak is in container or container valve, contact the appropriate emergency telephone number in Section 1 or call your closest Linde location.

Methods for Cleaning Up

Return cylinder to Linde or an authorized distributor.

7. HANDLING AND STORAGE

Handling

Do not use as breathing air. Dry product is non-corrosive and may be used with all materials of construction. Moisture causes metal oxides which are formed with air to be hydrated so that they include volume and lose their protective role (rust formation). Concentrations of SO₂, Cl₂, salt, etc. in the moisture enhances the rusting of metals in air. Carbon steels and low alloy steels are acceptable for use at lower pressures.

Use only in ventilated areas. "NO SMOKING" signs should be posted in storage and use areas. Never attempt to lift a cylinder by its valve protection cap. Protect cylinders from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distance, use a cart designed to transport cylinders. Use equipment rated for cylinder pressure. Use backflow preventive device in piping. Never insert an object (e.g. wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing leak to occur.

Use an adjustable strap wrench to remove over-tight or rusted caps. Close valve after each use and when empty. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier.

Never put cylinders into trunks of cars or unventilated areas of passenger vehicles. Never attempt to refill a compressed gas cylinder without the owner's written consent. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit.

Storage

Protect from physical damage. 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. Keep at temperatures below 52°C / 125°F. Full and empty cylinders should be segregated. Use a “first in-first out” inventory system to prevent full cylinders from being stored for excessive periods of time. Always store and handle compressed gas cylinders in accordance with Compressed Gas Association, pamphlet CGA-P1, Safe Handling of Compressed Gases in Containers.

For additional recommendations, consult Compressed Gas Association's Pamphlets G-4.1 and P-14.
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures
Showers. Eyewash stations. Ventilation systems.

Ventilation
Use local exhaust in combination with general ventilation as necessary to keep oxygen concentrations below 23.5%.

Personal Protective Equipment

Eye/Face Protection
Wear protective eyewear (safety glasses).

Skin and Body Protection
Work gloves and safety shoes are recommended when handling cylinders. Gloves must be clean and free from grease or oil.

Respiratory Protection

General Use
No special protective equipment required.

Emergency Use
No special protective equipment required.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Product Information

Appearance
Colorless.

Odor Threshold
No information available.

Odor
Odorless.

Physical State
Compressed gas

Autoignition Temperature
No information available.

Odor
Odorless.

Odor Threshold
No information available.

Physical State
Compressed gas

Autoignition Temperature
No information available.

Appearance
Colorless.

Flammability Limits in Air

Upper
Not applicable

Lower
Not applicable

The following information is for the NON-INERT components of this mixture:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Boiling Point</th>
<th>Melting Point</th>
<th>Molecular Weight</th>
<th>Evaporation Rate</th>
<th>Water Solubility</th>
<th>Vapor Pressure</th>
<th>Vapor Density (Air=1)</th>
<th>Gas Density Kg/m³@20°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen</td>
<td>-183 °C</td>
<td>-219 °C</td>
<td>31.99</td>
<td>-</td>
<td>Slightly soluble</td>
<td>Above critical temperature</td>
<td>1.11</td>
<td>1.331</td>
</tr>
</tbody>
</table>

The following information is for the INERT components that may be part of this mixture:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Boiling Point</th>
<th>Melting Point</th>
<th>Molecular Weight</th>
<th>Evaporation Rate</th>
<th>Water Solubility</th>
<th>Vapor Pressure</th>
<th>Vapor Density (Air=1)</th>
<th>Gas Density Kg/m³@20°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen</td>
<td>-196 °C</td>
<td>-210 °C</td>
<td>28.01</td>
<td>-</td>
<td>0.023 (vol/vol @ 20°C and 1 atm)</td>
<td>Above critical temperature</td>
<td>0.97</td>
<td>1.165</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
Stable.

Incompatible Products
Conditions to Avoid
Keep away from open flames, hot surfaces and sources of ignition.

Hazardous Decomposition Products
None known.

Hazardous Polymerization
Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information

LD50 Oral: No information available.

LD50 Dermal: No information available.

LC50 Inhalation: No information available.

Inhalation
Human volunteers which inhaled 90-95% oxygen through a face mask for 6 hours showed signs of tracheal irritation and fatigue. Other symptoms (which may have been caused by placing a tube into the trachea during the experiment) included: sinusitis, conjunctivitis, fever, and symptoms of acute bronchitis.

Poisoning began in dogs 36 hours after inhalation of pure oxygen at atmospheric pressure. Distress was seen within 48 hours and death within 60 hours.

Eye Contact
The incompletely developed retinal circulation is more susceptible to toxic levels of oxygen. In premature infants, arterial oxygen tension above 150 mm Hg may cause retrolental fibroplasia. Permanent blindness may occur several months later. One case of severe retinal damage in an adult was reported. An individual suffering from myasthenia gravis developed irreversible retinal atrophy after breathing 80% oxygen for 150 days.

Repeated Dose Toxicity No information available.

Component Information No information available.

Chronic Toxicity

Chronic Toxicity
Prolonged inhalation of high oxygen concentrations (>75%) may affect coordination, attention, and cause tiredness of respiratory irritation.

Carcinogenicity
Contains no ingredient listed as a carcinogen.

Irritation No information available.

Sensitization No information available.

Reproductive Toxicity No information available.

Developmental Toxicity No information available.

Synergistic Materials None known.

Target Organ Effects None known.
12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Ozone depletion potential; ODP; (R-11 = 1): Does not contain ozone depleting chemical (40 CFR Part 82).

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods

Do not attempt to dispose of residual waste or unused quantities. Return in the shipping container PROPERLY LABELED WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE to Linde for proper disposal.

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name: Compressed gas, oxidizing, n.o.s.
Hazard Class: 2.2
Subsidiary Class: 5.1
UN-No: UN3156
Description: UN3156, Compressed gas, oxidizing, n.o.s. (Oxygen, Nitrogen), 2.2, (5.1)
Emergency Response Guide Number: 122

TDG

Proper Shipping Name: Compressed gas, oxidizing, n.o.s.
Hazard Class: 2.2
Subsidiary Class: (5.1)
UN-No: UN3156
Description: UN3156, COMPRESSED GAS, OXIDIZING, N.O.S. (Oxygen, Nitrogen), 2.2(5.1)

MEX

Proper Shipping Name: Compressed gas, oxidizing, n.o.s.
Hazard Class: 2.2
Subsidiary Class: 5.1
UN-No: UN3156
Description: UN3156 Compressed gas, oxidizing, n.o.s. (Oxygen, Nitrogen), 2.2(5.1)

IATA

UN-No: UN3156
Proper Shipping Name: Compressed gas, oxidizing, n.o.s.
Hazard Class: 2.2
Subsidiary Class: 5.1
ERG Code: 2X
Description: UN3156, Compressed gas, oxidizing, n.o.s. (Oxygen, Nitrogen), 2.2(5.1)
Maximum Quantity for Passenger: 75 kg
Maximum Quantity for Cargo Only: 150 kg
Limited Quantity: No information available.

IMDG/IMO

>23.5% OXYGEN in NITROGEN, Material Safety Data Sheet, Revision Date 04-Nov-2010, Page 6 / 9
<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>Compressed gas, oxidizing, n.o.s.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>2.2</td>
</tr>
<tr>
<td>Subsidiary Class</td>
<td>5.1</td>
</tr>
<tr>
<td>UN-No</td>
<td>UN3156</td>
</tr>
<tr>
<td>EmS No.</td>
<td>F-C, S-W</td>
</tr>
<tr>
<td>Description</td>
<td>UN3156, Compressed gas, oxidizing, n.o.s.(Oxygen,Nitrogen), 2.2(5.1)</td>
</tr>
</tbody>
</table>

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>TSCA</th>
<th>Complies</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSL</td>
<td>Complies</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Complies</td>
</tr>
</tbody>
</table>

Legend

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Acute Health Hazard</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Risk and Process Safety Management Programs
This material, as supplied, does not contain any regulated substances with specified thresholds under 40 CFR Part 68. This product does not contain any substances regulated as Highly Hazardous Chemicals pursuant to the 29 CFR Part 1910.110.
Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA/SARA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>Oxygen</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

International Regulations

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
A Compressed gases
C Oxidizing materials

16. OTHER INFORMATION

Prepared By  Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date  09-Jul-2010

Revision Date  04-Nov-2010

Revision Number  1

Revision Note  (M)SDS sections updated. 1.
Note: Ratings were assigned in accordance with Compressed Gas Association (CGA) guidelines as published in CGA Pamphlet P-19-2009, CGA Recommended Hazard Ratings for Compressed Gases, 3rd Edition.

General Disclaimer
For terms and conditions, including limitation of liability, please refer to the purchase agreement in effect between Linde LLC, Linde Merchant Production, Inc. or Linde Gas North America LLC (or any of their affiliates and subsidiaries) and the purchaser.

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End of Safety Data Sheet