Spectra Gases Inc.

MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS Standards and EU Standards

SECTION 1. PRODUCT IDENTIFICATION

PRODUCT NAME: **1-21% Oxygen in Nitrogen**
CHEMICAL NAME: Oxygen in Inert
FORMULA: Oxygen = O_2; Nitrogen = N_2
SYNONYMS: None
U.S./MANUFACTURER: **SPECTRA GASES, INC.**
ADDRESS: 3434 Route 22 West
Branchburg, NJ 08876, U.S.A.
PHONE: 908/252-9300
FAX: 908/252-0811
WEB SITE: www.spectra-gases.com
SPECTRA GASES EMERGENCY CONTACT: 800-932-0624 (U.S., Canada) 8:30 am - 7:00 pm (EST)
24 HOUR EMERGENCY CONTACT, CHEMTREC (24 hrs): 800/424-9300 (U.S., Canada, Puerto Rico)
+1-703-527-3887 (International)

PRODUCT USE: Calibration Gas, Research and Development

NOT TO BE USED FOR BREATHING: NOT A MEDICAL GAS

ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-2004 format. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR. The product is also classified per all applicable EU Directives through EC 1907: 2006

SECTION 2. HAZARD IDENTIFICATION

EU LABELING AND CLASSIFICATION: This gas does not meet the definition hazardous as defined by current guidelines under EC 1907: 2006.

EU CLASSIFICATION: Not Applicable
EU RISK PHRASES: Not Applicable
EU SAFETY PHRASES: Not Applicable

EMERGENCY OVERVIEW: Product Description: This is a colorless, odorless, non-flammable gas. **Health Hazards:** When this mixture contains a low concentration of oxygen (below 19.5%) it can act as a simple asphyxiant by causing the displacement of oxygen to the extent that an oxygen deficient atmosphere may result. Rapidly expanding gases when accidentally released can cause frostbite. **Flammability Hazards:** This gas mixture is not flammable. Gas cylinders under pressure may rupture when subject to high heat or flames. **Reactivity Hazards:** This gas mixture is not reactive. **Environmental Hazards:** This gas mixture is not expected to cause significant hazard to the environment beyond hazard of frostbite in event of rapid release from the cylinder. **Emergency Response Considerations:** Persons responding to releases of this gas mixture must protect themselves appropriate to the situation to which they are responding.

See Section 15 for full definition of Risk and Safety Phrases.

SECTION 3. COMPOSITION and INFORMATION ON INGREDIENTS

(10,000 ppm = 1%)

CHEMICAL NAME	CAS #	EINECS#	Mole%	European Hazard Classification Risk Phrases Safety Phrases
Oxygen	7782-44-7	231-783-9	1.0-21.0%	HAZARD CLASSIFICATION: O (Oxidizing) RISK PHRASES: R: 8 SAFETY PHRASES: S: 2; S: 17
Nitrogen	7727-37-9	231-783-9	Balance	HAZARD CLASSIFICATION: Not Applicable RISK PHRASES: Not Applicable SAFETY PHRASES: Not Applicable

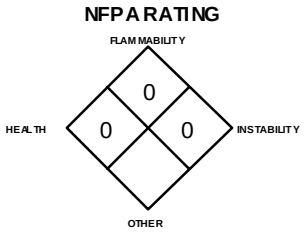
See Section 15 for full definition of Risk and Safety Phrases.

SECTION 4. FIRST AID MEASURES

EYE CONTACT: If mechanical injury occurs, cover eye with bandage and seek appropriate medical attention.
INGESTION: Ingestion is an unlikely route of exposure for this gas.
INHALATION: Remove victim(s) to fresh air, as quickly as possible. Trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary.
SKIN CONTACT: If release of this gas has resulted in frostbite, warm affected area slowly. Seek immediate medical attention.
NOTES TO PHYSICIANS: Administer oxygen, if necessary and treat symptoms.

SECTION 5. FIRE FIGHTING MEASURES

FLASH POINT: Not Applicable
AUTOIGNITION: Not Applicable
FLAMMABLE RANGE: Not Applicable
NFPA RATINGS:
HEALTH: = 0 FLAMMABILITY: = 0
REACTIVITY: = 0 SPECIAL: Simple Asphyxiant



EXTINGUISHING MEDIA: This is a non-flammable gas mixture. Use fire-extinguishing media appropriate for the surrounding materials.
EXTINGUISHING MEDIA NOT TO BE USED: None.
SPECIAL FIRE-FIGHTING PROCEDURES: None.
UNUSUAL FIRE AND EXPLOSION HAZARDS: This gas does not burn; however, containers, when involved in fire, may rupture or burst in the heat of the fire. Most cylinders have a pressure release device, which will vent contents if the cylinder is exposed to high temperatures.
EXPLOSION SENSITIVITY TO MECHANICAL IMPACT: Not sensitive.
EXPLOSION SENSITIVITY TO STATIC DISCHARGE: Not sensitive.
HAZARDOUS COMBUSTION PRODUCTS: None known.

SECTION 6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

- Close the gas source if possible to do so safely.
- Evacuate area.
- Prior to re-entry, area should be monitored to ensure oxygen level is adequate.
- Contact your supplier if leak was from the cylinder, cylinder valve or the valve pressure relief device (PRD).

Notes for trained emergency responders:

- Self-Contained Breathing Apparatus (SCBA) should be used when entering contaminated area.
- Monitor area for oxygen levels.
- When responding to a release of pressurized gas, be aware of the severe hazard of mechanical injury in the event of valve failure or other event causing a rapid release of cylinder contents.
- Attempt to close the main source valve prior to entering the area.
- Locate and seal the source of the leaking gas.
- If it is not possible to stop release, allow remaining gas to release in-place or remove gas cylinder to a safe area and allow the gas to be released there.
- If leak is in user's gas handling equipment or system, close cylinder valve, and safely vent high pressure. Purge gas handling equipment with inert gas and relieve pressure before attempting repairs.

SECTION 7. HANDLING AND STORAGE

STORAGE:

- Cylinders should be stored upright (with valve protection caps or plugs in place) and firmly secured to prevent falling or being knocked over. Cylinders should be stored in dry, well-ventilated areas. Do not allow storage temperature to exceed 125°F (52°C). Protect from salt or other corrosive materials. Storage should be away from heavily traveled areas, walkways, elevators, platform edges or other objects or situations that could damage the cylinder wall. Do not store in a manner that will block emergency exits, fire extinguishers or other safety equipment.
- Use a first-in, first-out inventory system to prevent full containers from being stored for long periods of time. Store empty cylinders away from full cylinders.
- Cylinders must not be recharged except by or with the consent of owner.
- Consider installation of leak detection and alarm systems for storage areas.
- Use only DOT or ASME code cylinders designed for compressed gas storage.

HANDLING:

- Do not drag, roll, slide or drop cylinder. Use a suitable hand truck designed for cylinder movement. Never attempt to lift a cylinder by its cap.
- Secure cylinders at all times while in use.
- Cylinder valves should be inspected regularly for physical damage.
- Use an adjustable strap-wrench to remove over-tight or rusted caps.
- Use a pressure regulator to safely discharge product from cylinder.
- Use a check valve to prevent reverse flow into cylinder.
- Once cylinder has been connected to process, open cylinder valve slowly and carefully. If user experiences any difficulty operating cylinder valve, discontinue use and contact supplier.
- Close valve after each use and when empty.
- Never tamper with pressure relief devices in valves and cylinders. Never insert an object (e.g., wrench, screwdriver, etc.) into valve cap openings; doing so may damage valve, causing leak to occur.

- Do not heat cylinders to increase the discharge rate of product from the cylinder. Never apply flame or localized heat directly to any part of the cylinder. Cylinders should not be artificially cooled as certain types of steel undergo property changes when cryogenically cooled, thus making the cylinder unstable.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures).

SPECIAL PRECAUTIONS: Be aware of any signs of dizziness or fatigue; exposures to fatal concentrations of this gas could occur without any significant warning symptom, due to potential of oxygen-deficiency. Always store and handle compressed gas cylinders in accordance with Compressed Gas Association, Inc. (telephone 703-412-0900) pamphlet CGA P-1, *Safe Handling of Compressed Gases in Containers.* Local regulations may require specific equipment for storage and use.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Forced ventilation systems for the general work area should be provided. If appropriate, install automatic monitoring equipment to detect the level of oxygen.

EXPOSURE LIMITS: (10,000 ppm = 1%)

OSHA PELs:	ACGIH TLVs:	NIOSH RELs:

There are no exposure limits for Nitrogen, Nitrogen is a simple asphyxiant.

There are no exposure limits for Oxygen.

INTERNATIONAL OCCUPATIONAL EXPOSURE LIMITS: Not applicable.

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with regulations found in U.S. OSHA 29 CFR Subpart I (beginning at 1910.132), equivalent standards of Canada (including CSA Standard Z94.4-02 and CSA Standard Z94.3-07 and, standards of EU member states (including EN 529:2005 for respiratory PPE, CEN/TR 15419:2006 for hand protection, and CR 13464:1999 for face/eye protection. Please reference applicable regulations and standards for relevant details.

RESPIRATORY PROTECTION: Maintain oxygen levels above 19.5% in the workplace. Use supplied air respiratory protection if oxygen level is below 19.5%, or during emergency response to a release of this product. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-02, the European Standard EN 529:2005, and EU member state standards.

EYE PROTECTION: Use approved safety goggles or safety glasses. If necessary, refer to U.S. OSHA 29 CFR 1910.133, Canadian CSA Standard Z94.3-07 or the European Standard CR 13464:1999.

SKIN PROTECTION: Work (such as leather) gloves are recommended when handling cylinders of this gas. If necessary, refer to U.S. OSHA 29 CFR 1910.138, appropriate Standards of Canada or the European Standard CEN/TR 15419:2006. Wear gloves appropriate to the specific operation for which this gas is used. Use appropriate gloves for spill response.

OTHER PROTECTIVE EQUIPMENT: Use body protection appropriate for task. Safety shoes are recommended when handling cylinders. If necessary, refer to the OSHA Technical Manual (Section VII: Personal Protective Equipment) appropriate Standards of Canada or the European Standard CEN/TR 15419:2006. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA 29 CFR 1910.136 and the Canadian CSA Standard Z195-M1984, *Protective Footwear*.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

The following information is for the Nitrogen component of this mixture.

MOLECULAR WEIGHT: 28.01
GAS DENSITY @ 21.1°C (70°F): 0.072 lb./ft^3 (1.153 kg/m^3)
BOILING POINT @ 1 atm: -195.8°C (-320.4°F)
FREEZING/MELTING POINT @ 1 atm: -210°C (-345.8°F)
SPECIFIC GRAVITY (air = 1) @ 21.1°C (70°F): 0.906
SOLUBILITY IN WATER vol/vol at 0°C (32°F) and 1 atm: 0.023
SPECIFIC VOLUME @ 21.1°C (70°F): 13.8 lb/ft^3 (0.867 m^3/kg)
CRITICAL PRESSURE: 492.9 psia (3399 kPa abs)
COEFFICIENT WATER/OIL DISTRIBUTION: Not applicable.

The following information is for the Oxygen component of this mixture.

MOLECULAR WEIGHT: 31.9988
GAS DENSITY @ 21.1°C (70°F): 0.08279 lb./ft^3 (1.326 kg/m^3)
BOILING POINT @ 1 atm: -182.96°C (-297.33°F)
FREEZING/MELTING POINT @ 1 atm: -218.78°C (-361.80°F)
SPECIFIC GRAVITY (air = 1) @ 21.1°C (70°F): 1.105
SOLUBILITY IN WATER vol/vol at 0°C (32°F) and 1 atm: 0.0491
SPECIFIC VOLUME @ 21.1°C (70°F): 12.08 ft^3/lb (0.7541 m^3/kg)
CRITICAL PRESSURE: 731.4 psia (5043 kPa abs)
COEFFICIENT WATER/OIL DISTRIBUTION: Not applicable.

Information for gas mixture:

APPEARANCE, ODOR AND STATE: Colorless, odorless gas.
WARNING PROPERTIES FOR THIS GAS: There are no warning properties in the event of a release.

SECTION 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.

CONDITIONS TO AVOID: Cylinders should not be exposed to temperatures in excess of 125°F (52°C).

MATERIALS WITH WHICH GAS IS INCOMPATIBLE: Nitrogen is an inert gas. Oxygen is incompatible with chlorinated hydrocarbons, hydrazine, reduced boron compounds, ethers, phosphine, phosphorous tribromide, phosphorous trioxide, tetrafluorethylene, and compounds which readily form peroxides.

REACTIVITY:

A) HAZARDOUS DECOMPOSITION PRODUCTS: None.

B) HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

ROUTES OF ENTRY, SYMPTOMS OF ACUTE EXPOSURE: WARNING - If rescue personnel need to enter an area of release of this gas mixture, they should be equipped with Self-Contained Breathing Apparatus (SCBA). High concentration of this gas will create an oxygen-deficient atmosphere, creating the risk of asphyxiation. Acute overexposure to this gas may cause the following health effects:

EYE CONTACT: High-pressure gas may result in airborne objects.

INGESTION: Ingestion of this gas is not a likely route of industrial exposure.

INHALATION: High concentrations of this gas can cause an oxygen-deficient environment. Individuals breathing such an atmosphere may experience symptoms which include headaches, ringing in ears, dizziness, drowsiness, unconsciousness, nausea, vomiting, and depression of all the senses. The skin of a victim may have a blue color. Under some circumstances of over-exposure, death may occur, due to the displacement of oxygen. The following effects associated with various levels of oxygen are as follows:

CONCENTRATION of OXYGEN	EXPOSURE SYMPTOM
20.9% Oxygen:	Normal oxygen concentration in air.
15-19% Oxygen:	Decreased ability to perform tasks. May impair coordination and may induce early symptoms in persons with heart, lung, or circulatory problems.
12-15% Oxygen:	Breathing increases, especially in exertion. Pulse up. Impaired coordination, perception, and judgment.
10-12% Oxygen:	Breathing further increases in rate and depth, poor coordination and judgment, lips slightly blue.
Less than 10% Oxygen:	Mental failure, inability to perform various movements, loss of consciousness without warning, convulsions, death

SKIN CONTACT: Rapidly released gases can cause frostbite.

ROUTES OF ENTRY, SYMPTOMS OF CHRONIC EXPOSURE:

ROUTE OF ENTRY: Not Applicable

TARGET ORGANS: None.

SYMPTOMS: None.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: None are anticipated.

CARCINOGENIC POTENTIAL: The components of this gas mixture are not found on the U.S. EPA, U.S. NTP, U.S. OSHA, U.S. NIOSH, GERMAN MAK, ACGIH or IARC Carcinogenicity lists and therefore are neither considered to be nor suspected to be cancer-causing agents by these agencies.

TOXICITY DATA: There are no specific toxicology data for Nitrogen. Nitrogen is a simple asphyxiant, which acts to displace oxygen in the environment. There are data for the Oxygen component; however they are only applicable to persons in a hyperbaric environment, a situation not applicable to this gas mixture.

IRRITANCY OF PRODUCT: Not applicable.

SENSITIZATION OF PRODUCT: The components of this gas mixture are not human skin or respiratory sensitizers.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of components of this gas mixture on the human reproductive system.

Mutagenicity: The components of this gas mixture have not been found to cause mutagenic effects in humans.

Embryotoxicity: The components of this gas mixture have not been found to cause embryotoxic effects in humans.

Teratogenicity: The components of this gas mixture have not been found to cause teratogenic effects in humans.

Reproductive Toxicity: The components of this gas mixture have not been found to cause adverse reproductive effects in humans.

A mutagen is a chemical that causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical that causes damage to a developing embryo (i.e., within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical that causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance that interferes in any way with the reproductive process.

BIOLOGICAL EXPOSURE INDICES (BEIs): Currently, Biological Exposure Indices (BEIs) are not applicable for the components of this gas mixture.

SECTION 12. ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: The components of this gas mixture will be dissipated rapidly in well-ventilated areas.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: The components of this gas mixture occur naturally in the atmosphere and is not expected to present a hazard to plants and animals.

EFFECT OF CHEMICAL ON AQUATIC LIFE: There is currently no evidence of adverse effects from exposure to components of this gas mixture on aquatic life.

MOBILITY: This gas mixture does not present a hazard of mobility.

PERSISTENCE AND BIODEGRADABILITY: Persistence: Nitrogen and Oxygen are natural elements and present no hazard of persistence. Biodegradation: Not applicable.

POTENTIAL TO BIOACCUMULATE: Components of this gas mixture will not bioaccumulate.

OZONE-DEPLETION POTENTIAL: Components of this gas mixture are not Class I or Class II ozone depleting chemicals (40 CFR Part 82).

SECTION 13. DISPOSAL CONSIDERATIONS

UNUSED PRODUCT / EMPTY CONTAINER: Return unused product and cylinders to: Spectra Gases, Inc., 80 Industrial Drive, Alpha, NJ 08865 or Spectra Gases, Inc., 1261 Activity Drive, Vista, CA 92083.

DISPOSAL INFORMATION: Residual product may be safely released in a well-ventilated area. This shall be done in accordance with U.S. Federal, State and local regulations, regulations of the provinces of Canada or EU member states. (Maintaining some amount of positive pressure will prevent air/moisture contamination of the cylinder.)

SECTION 14. TRANSPORT INFORMATION

U.S. SHIPPING INFORMATION:

U.S. DOT PROPER SHIPPING NAME:	Compressed gases, n.o.s. (Nitrogen, Oxygen)
HAZARD CLASS NUMBER and DESCRIPTION:	2.2 (Non-Flammable Gas)
UN IDENTIFICATION NUMBER:	UN 1956
U.S. DOT SHIPPING LABEL(S) REQUIRED:	Class 2.2 (Non-Flammable Gas)
PLACARD (When required):	Not Applicable

SPECIAL SHIPPING INFORMATION: Cylinders should be transported in a secure position in a well-ventilated truck (never transport in passenger compartment of a vehicle). Ensure cylinder valve is properly closed, valve outlet cap has been reinstalled, and valve protection cap is secured before shipping cylinder.

CAUTION: Compressed gas cylinders shall not be refilled except by qualified producers of compressed gases. Shipment of a compressed gas cylinder which has not been filled by the owner or with the owner's written consent is a violation of Federal law (49 CFR 173.301).

NAERG (NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK) #: 126

CANADIAN SHIPPING INFORMATION:

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This gas mixture is classified as Dangerous Goods, per regulations of Transport Canada. The use of the above U.S. DOT information from the U.S. 49 CFR regulations is allowed for shipments that originate in the U.S. For shipments via ground vehicle or rail that originate in Canada, the following information is applicable.

UN IDENTIFICATION NUMBER:	UN 1956
PROPER SHIPPING NAME:	Compressed gases, n.o.s. (Nitrogen, Oxygen)
HAZARD CLASS NUMBER and DESCRIPTION:	2.2 (Non-Flammable Gas)
PACKING GROUP:	Not Applicable
HAZARD SHIPPING LABEL(S) REQUIRED:	Class 2.2 (Non-Flammable Gas)
PLACARD (When required):	Class 2.2 (Non-Flammable Gas)
SPECIAL PROVISIONS:	None
EXPLOSIVE LIMIT & LIMITED QUANTITY INDEX:	0.125
ERAP INDEX:	None
PASSENGER CARRYING SHIP INDEX:	None

PASSENGER CARRYING ROAD OR RAIL VEHICLE INDEX: 75

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA) - IATA DESIGNATION:

Nitrogen is classified as dangerous goods, per the International Air Transport Association.

UN IDENTIFICATION NUMBER:	UN 1956
PROPER SHIPPING NAME:	Compressed gases, n.o.s. (Nitrogen, Oxygen)
HAZARD CLASS NUMBER and DESCRIPTION:	2.2 (Non-Flammable Gas)
PACKING GROUP:	Not Applicable
HAZARD SHIPPING LABEL(S) REQUIRED:	Class 2.2 (Non-Flammable Gas)
PLACARD (When required):	Class 2.2 (Non-Flammable Gas)
SPECIAL PROVISIONS:	None
EXPLOSIVE LIMIT & LIMITED QUANTITY INDEX:	0.125
ERAP INDEX:	None
PASSENGER CARRYING SHIP INDEX:	None

PASSENGER CARRYING ROAD OR RAIL VEHICLE INDEX: 75

SECTION 14. TRANSPORT INFORMATION (Continued)

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA) - IATA DESIGNATION:

This gas mixture is classified as dangerous goods, per the International Air Transport Association.

UN IDENTIFICATION NUMBER: UN 1956
PROPER SHIPPING NAME: Compressed gases, n.o.s. (Nitrogen, Oxygen)
HAZARD CLASS NUMBER and DESCRIPTION: 2.2 (Non-Flammable Gas)
PACKING GROUP: Not Applicable
HAZARD SHIPPING LABEL(S) REQUIRED: Class 2.2 (Non-Flammable Gas)
PASSENGER and CARGO AIRCRAFT PACKING INSTRUCTION: 200
PASSENGER and CARGO AIRCRAFT MAXIMUM NET QUANTITY PER PKG: 75 kg
PASSENGER and CARGO AIRCRAFT LIMITED QUANTITY PACKING INSTRUCTION: None
PASSENGER and CARGO AIRCRAFT LIMITED QUANTITY MAXIMUM NET QUANTITY PER PKG: None
CARGO AIRCRAFT ONLY PACKING INSTRUCTION: 200
CARGO AIRCRAFT ONLY MAXIMUM NET QUANTITY PER PKG: 150 kg
SPECIAL PROVISIONS: None
ERG CODE: 2L

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO)

IMO DESIGNATION: This gas mixture is classified as dangerous goods, per the International Maritime Organization.
UN IDENTIFICATION NUMBER: UN 1956
PROPER SHIPPING NAME: Compressed gases, n.o.s. (Nitrogen, Oxygen)
HAZARD CLASS NUMBER and DESCRIPTION: 2.2 (Non-Flammable Gas)
HAZARD SHIPPING LABEL(S) REQUIRED: 2.2 (Non-Flammable Gas)
PACKING GROUP: None
SPECIAL PROVISIONS: 274, 292
LIMITED QUANTITIES: 120 mL
PACKING INSTRUCTIONS: P200
EmS: F-C, S-A
STOWAGE CATEGORY: Category A.
MARINE POLLUTANT: The components of this gas mixture are not designated by the IMO to be a Marine Pollutant.

EUROPEAN SHIPPING INFORMATION

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This gas is classified by the Economic Commission for Europe to be dangerous goods. Additional information is as follows:

UN NO.: 1956
NAME and DESCRIPTON: Compressed gases, n.o.s. (Nitrogen, Oxygen)
CLASS: 2
CLASSIFICATION CODE: 1A
PACKING GROUP: Not Applicable
LABELS: 2.2
SPECIAL PROVISIONS: 274, 292, 567
LIMITED QUANTITIES: LQ1
PACKING INSTRUCTIONS: P200
MIXED PACKING PROVISIONS: MP9
HAZARD IDENTIFICATION No.: 20

SECTION 15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

EPA - ENVIRONMENTAL PROTECTION AGENCY:

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1990 (40 CFR Parts 117 and 302)

Reportable Quantity (RQ): Not Applicable

SARA TITLE III: Superfund Amendment and Reauthorization Act

SECTIONS 302/304: Emergency Planning and Notification (40 CFR Part 355)

Extremely Hazardous Substances: Nitrogen is not listed.
Threshold Planning Quantity (TPQ): Not Applicable
Reportable Quantity (RQ): Not Applicable

SECTIONS 311/312: Hazardous Chemical Reporting (40 CFR Part 370)

IMMEDIATE HEALTH: No
DELAYED HEALTH: No
PRESSURE: Yes
REACTIVITY: No
FIRE: No

SECTION 313: Toxic Chemical Release Reporting (40 CFR 372)

Releases of this gas mixture do not require reporting under Section 313.

SECTION 15. REGULATORY INFORMATION (Continued)

U.S. FEDERAL REGULATIONS (continued):

EPA - ENVIRONMENTAL PROTECTION AGENCY (continued):

CLEAN AIR ACT:

SECTION 112 (r): Risk Management Programs for Chemical Accidental Release (40 CFR Part 68)

Threshold Planning Quantity (TPQ): Not Applicable

TSCA: Toxic Substances Control Act

Nitrogen is listed on the TSCA Inventory.

OSHA - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

29 CFR Part 1910.119: Process Safety Management of Highly Hazardous Chemicals.

Threshold Planning Quantity (TPQ): Not Applicable

U.S. STATE REGULATORY INFORMATION:

CALIFORNIA PROPOSITION 65: No component of this gas mixture is listed as a substance which the State of California requires warning under this statute.

CANADIAN FEDERAL REGULATIONS:

CANADIAN DSL INVENTORY STATUS: Components of this gas mixture are listed on the Canadian DSL Inventory.

OTHER CANADIAN REGULATIONS: Components of this gas mixture are not on the CEPA Priorities Substances Lists.

CANADIAN WHMIS CLASSIFICATION AND SYMBOLS: This gas is categorized as a Controlled Product, Hazard Classes A**:** Compressed Gas.

EUROPEAN ECONOMIC COMMUNITY REGULATIONS:

EU LABELING AND CLASSIFICATION: This gas mixture does not meet the definition hazardous as defined by current guidelines under EC 1907: 2006.

EU CLASSIFICATION: Not applicable.

EU RISK PHRASES: Not applicable.

EU SAFETY PHRASES: Not applicable.

EUROPEAN COMMUNITY ANNEX II HAZARD SYMBOL: Not applicable.

EUROPEAN COMMUNITY INFORMATION FOR COMPONENTS:

NITROGEN:

EU CLASSIFICATION: An official classification for this substance has not been published in Commission Directives 93/72/EEC, 94/69 EC, or and 96/54/EC.

OXYGEN:

EU CLASSIFICATION: O (Oxidizing)

EU RISK PHRASES: [R: 8]: Contact with combustible material may cause fire.

EU SAFETY PHRASES: [S: 2]: Keep out of the reach of children. [S: 17]: Keep away from combustible material.

EUROPEAN COMMUNITY ANNEX II HAZARD SYMBOL: O

GLOBAL HARMONIZATION SYSTEM WARNINGS:

HAZARD CATEGORIES:	Compressed Gas **SIGNAL WORDS:** Warning
HAZARD STATEMENTS:	Contains gas under pressure; may explode if heated.
PREVENTION STATEMENTS:	Do not eat, drink or smoke when using this gas.
STORAGE:	Protect from sunlight and store in well-ventilated place. Keep valves tightly closed.
RESPONSE STATEMENTS:	In case of fire, stop leak if it is safe to do so. If inhaled: remove to fresh air and keep at rest in a comfortable position. Reclaim/recycle/dispose of contents and cylinder per local, regional, national and international regulations.
SYMBOLS:	

SECTION 16. OTHER INFORMATION

Information contained in this Material Safety Data Sheet is provided to our customers so they may comply with 29 CFR 1910.1200, Hazard Communication Standard, the Canadian WHMIS Standard, and the requirements of the European Community Directives. The intent of this Material Safety Data Sheet is to provide end users of this product with the health and physical hazards associated with possible exposure to this product. All statements, technical data and recommendations are based on readily available texts and data that Spectra Gases, Inc., believes to be reliable and accurate. Spectra Gases, Inc., makes no warranties, guarantees or representations of any kind with respect to this product or this data. It is the responsibility of the user to obtain and use the most recent version of this MSDS.

Further information can be found in the following pamphlets published by: Compressed Gas Association Inc. (CGA), 421 Walney Road, 5th Floor, Chantilly, VA 20151. Telephone: (703) 788-2700, Fax: (703) 961-1831.

P-1 *"Safe Handling of Compressed Gases in Containers"*
AV-1 *"Safe Handling and Storage of Compressed Gases"*
"Handbook of Compressed Gases"

For Definition of Terms used in Spectra MSDSs see Spectra Gases, Inc. website: www.spectra-gases.com. Or contact your Customer Service Representative.

PREPARED BY: CHEMICAL SAFETY ASSOCIATES, Inc.
PO Box 3519, La Mesa, CA 91944-3519
(800)441-3365 • (619) 670-0609

Revision History
1/8/02 Revision: Addition of IATA ERG Code; 4/4/05: general review
6/30/08: Up-date to current formats for ANSI and EU and addition of Global Harmonization info.