MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS, Australian WorkSafe, Japanese Industrial Standard JIS Z 7250:2000, and European Union REACH Regulations

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:	**NON-FLAMMABLE GAS MIXTURE Containing One or More of the Following Components in a Nitrogen or Helium Balance Gas: Carbon Dioxide, 0.005 – 50.0%; Methane, 0 – 2.5%; Oxygen, 0 – 23.5%**
SYNONYMS:	Not Applicable
CHEMICAL FAMILY NAME:	Not Applicable
FORMULA:	Not Applicable
PRODUCT USE:	Calibration of Monitoring and Research Equipment
DOCUMENT NUMBER:	MSDS 1010 (99-0196)
U.N. NUMBER:	UN1956
U.N. DANGEROUS GOODS CLASS:	Compressed gases, n.o.s. (*Oxygen, Nitrogen) *or the gas component with the next highest concentration next to Nitrogen.
SUPPLIER/MANUFACTURER'S NAME:	**PortaGAS, Inc.**
ADDRESS:	1202 E. Sam Houston Pkwy S., Pasadena, TX 77503
EMERGENCY PHONE:	**TOLL-FREE in USA/Canada:** (800)255-3924 **International calls:** +1 813 248 0585 **Australian Poison Control:** 13 11 26 **Australian Fire Brigade:** 000
BUSINESS PHONE:	(713) 928-6477 General MSDS Info
DATE OF PREPARATION:	March 2013
DATE OF LAST REVISION:	March 2013

SECTION 2 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: This gas mixture is a colorless, odorless gas. A significant hazard associated with releases of this gas mixture is the potential for over-exposure to Carbon Dioxide, a component of this gas mixture. Inhalation of Carbon Dioxide can increase respiration and heart rate, possibly resulting in circulatory insufficiency (which may lead to coma and death). At concentrations between 2-10%, Carbon Dioxide can cause nausea, dizziness, headache, mental confusion, increased blood pressure and respiratory rate. If the concentration of Carbon Dioxide reaches 10% or more, suffocation can occur within minutes. Additionally, releases of this gas mixture may produce oxygen-deficient atmospheres (especially in confined spaces or other poorly-ventilated environments); individuals in such atmospheres may be asphyxiated.

US DOT SYMBOLS

CANADA (WHMIS) SYMBOLS

EUROPEAN AND (GHS) HAZARD SYMBOLS

Signal Word: **Danger**

EU LABELING AND CLASSIFICATION:

Classification of the substance or mixture according to Regulation (EC) No1272/2008

Aspiration Hazard Category 1
Pressurized Gas
Acute Toxicity Inhalation Category 3

According to European Directive 67/548/EEC as amended.

Harmful by inhalation, pressurized gas

Hazard Statement(s):

H304: May be fatal if swallowed and enters airways
H270: May cause or intensify fire, oxidizer
H280: Contains gas under pressure, may explode if heated
H331: Toxic if inhaled

Precautionary Statement(s):

P261: Avoid breathing gas.
P271: Use only in well-ventilated area.
P281: Use personal protective equipment as required.
P314: Get medical advice/attention if you feel unwell
P403: Store in a well-ventilated place.

Hazard Symbol(s):
[Xn] Harmful; [O] Oxidizer

Risk Phrases: Simple Asphyxiant,
R8: Contact with combustible material may cause fire.
R23: Toxic by inhalation.
R48/20: Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Safety Phrases:
S9: Keep container in a well-ventilated area.
S23: Do not breathe gas.
S36/37: Wear suitable protective clothing and gloves.

HEALTH HAZARDS OR RISKS FROM EXPOSURE:

ACUTE: Due to the small size of the individual cylinder of this gas mixture, no unusual health effects from exposure to the product are anticipated under routine circumstances of use. Inhalation of high concentrations of Carbon Dioxide (a component of this gas mixture) can cause nausea, dizziness, headache, mental confusion, increased blood pressure and respiratory rate. High concentrations of Carbon Dioxide may cause eye irritation, and potential eye damage. Another significant hazard associated with this gas mixture when it contains less than 19.5% oxygen is the potential for exposure to oxygen-deficient atmospheres. Symptoms of oxygen deficiency include respiratory difficulty, ringing in ears, headaches, and shortness of breath, wheezing, headache, dizziness, indigestion, nausea, unconsciousness, and death. The skin of a victim of over-exposure may have a blue color.

CHRONIC: Chronic exposure to oxygen-deficient atmospheres (below 18% oxygen in air) may affect the heart and nervous system.

TARGET ORGANS:
ACUTE: Respiratory system.
CHRONIC: Heart, central nervous system.

SECTION 3 - COMPOSITION and INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS:	CAS #	EINECS #	ICSC #	% Vol	HAZARD CLASSIFICATION; RISK PHRASES
Carbon Dioxide	124-38-9	204-696-9	0021	0.005-50.0%	HAZARD CLASSIFICATION: Not Classified RISK PHRASES: None
Methane	74-82-8	200-812-7	0291	0 – 2.5%	HAZARD CLASSIFICATION: [F] Flammable RISK PHRASES: R12
Oxygen	7782-44-7	231-956-9	0138	0 – 23.5%	HAZARD CLASSIFICATION: [O] Oxidizer RISK PHRASES: R8
Nitrogen/ Helium	7727-37-9 7440-59-7	231-783-9 231-168-5	1198 0603	Balance	HAZARD CLASSIFICATION: [Xi] Irritant RISK PHRASES: R36/38

None of the trace impurities in this product contribute significantly to the hazards associated with the product.

All hazard information pertinent to the product has been provided in this Material Safety Data sheet., per the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) and State equivalent standards

Note: 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, EU Directives and the Japanese Industrial Standard *JIS Z 7250: 2000*.

SECTION 4 - FIRST-AID MEASURES

RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO THIS PRODUCT WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. No unusual health effects are anticipated after exposure to this gas mixture, due to the small cylinder size. If any adverse symptom develops after over-exposure to this gas mixture, remove victim(s) to fresh air, as quickly as possible. Only trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary. Victim(s) who experience any adverse effect after over-exposure to this gas mixture must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take copy of label and MSDS to physician or other health professional with victim(s).

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Acute or chronic respiratory conditions may be aggravated by over-exposure to the components of this gas mixture. Additionally, over-exposure to Carbon Dioxide (a component of this gas mixture) may aggravate eye disorders and central nervous system conditions.

RECOMMENDATIONS TO PHYSICIANS: Administer oxygen, if necessary; treat symptoms and eliminate exposure.

SECTION 5 - FIRE-FIGHTING MEASURES

FLASH POINT: Not Applicable

AUTOIGNITION TEMPERATURE: Not applicable.

FLAMMABLE LIMITS (in air by volume, %): Lower (LEL): Not applicable. Upper (UEL): Not applicable.

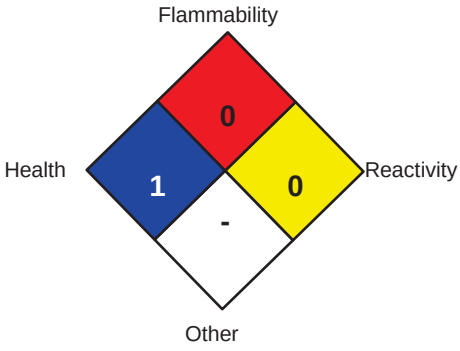
FIRE EXTINGUISHING MATERIALS: Non-flammable gas mixture. Use extinguishing media appropriate for surrounding fire.

MATERIAL SAFETY DATA SHEET

UNUSUAL FIRE AND EXPLOSION HAZARDS: This gas mixture is not flammable; however, containers, when involved in fire, may rupture or burst in the heat of the fire.
Explosion Sensitivity to Mechanical Impact: Not Sensitive.
Explosion Sensitivity to Static Discharge: Not Sensitive.

SPECIAL FIRE-FIGHTING PROCEDURES: Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment.

NFPA RATING SYSTEM



HMIS RATING SYSTEM

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM	
HEALTH HAZARD (BLUE)	1
FLAMMABILITY HAZARD (RED)	0
PHYSICAL HAZARD (YELLOW)	0

PROTECTIVE EQUIPMENT			
EYES	RESPIRATORY	HANDS	BODY
	See Sect 8		See Sect 8

For Routine Industrial Use and Handling Applications

Hazard Scale: **0** = Minimal **1** = Slight **2** = Moderate **3** = Serious **4** = Severe * = Chronic hazard

SECTION 6 - ACCIDENTAL RELEASE MEASURES

LEAK RESPONSE: Due to the small size and content of the cylinder, an accidental release of this gas mixture presents significantly less risk of an oxygen deficient environment and other safety hazards than a similar release from a larger cylinder. However, as with any chemical release, extreme caution must be used during emergency response procedures. In the event of a release in which the atmosphere is unknown, and in which other chemicals are potentially involved, evacuate immediate area. Such releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a leak, clear the affected area, protect people, and respond with trained personnel. Allow the gas mixture to dissipate. If necessary, monitor the surrounding area (and the original area of the release) for Carbon Dioxide and oxygen. Carbon Dioxide should not be above background levels and Oxygen levels must be above 19.5% before non-emergency personnel are allowed to re-enter area. If leaking incidentally from the cylinder, contact your supplier.

SECTION 7 - HANDLING and STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: Be aware of any signs of dizziness or fatigue, especially if work is done in a poorly ventilated area; exposures to fatal concentrations of this gas mixture could occur without any significant warning symptoms, due to carbon dioxide over-exposure and oxygen deficiency. Do not attempt to repair, adjust, or in any other way modify the cylinders containing this gas mixture. If there is a malfunction or another type of operational problem, contact nearest distributor immediately.

STORAGE AND HANDLING PRACTICES: Cylinders should be firmly secured to prevent falling or being knocked-over. Cylinders must be protected from the environment, and preferably kept at room temperature (approximately 21°C, 70°F). Cylinders should be stored in dry, well-ventilated areas, away from sources of heat, ignition, and direct sunlight. Protect cylinders against physical damage. Full and empty cylinders should be segregated. Use a first-in, first-out inventory system to prevent full containers from being stored for long periods of time. These cylinders are not refillable.

WARNING! Do not refill DOT 39 cylinders. To do so may cause personal injury or property damage.

SPECIAL PRECAUTIONS FOR HANDLING GAS CYLINDERS:

WARNING! Compressed gases can present significant safety hazards. During cylinder use, use equipment designed for these specific cylinders. Ensure all lines and equipment are rated for proper service pressure.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain that application equipment is locked and tagged-out safely. Always use product in areas where adequate ventilation is provided.

MATERIAL SAFETY DATA SHEET

SECTION 8 - EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS/GUIDELINES:

Chemical Name	CAS#	ACGIH TWA	OSHA TWA	SWA TWA
Carbon Dioxide	124-38-9	5000 ppm	5000 ppm	5000 ppm
Methane	74-82-8	Not Listed S/A	Not Listed S/A	Not Listed S/A
Oxygen	7782-44-7	Not Listed S/A	Not Listed S/A	Not Listed S/A
Nitrogen / Helium	7727-37-9 7440-59-7	Not Listed S/A	Not Listed S/A	Not Listed S/A

There are no specific exposure limits for Nitrogen. Nitrogen is a simple asphyxiant (SA). Oxygen levels should be maintained above 19.5%

VENTILATION AND ENGINEERING CONTROLS: No special ventilation systems or engineering controls are needed under normal circumstances of use. As with all chemicals, use this gas mixture in well-ventilated areas. If this gas mixture is used in a poorly-ventilated area, install automatic monitoring equipment to detect the levels of Carbon Dioxide and Oxygen.

RESPIRATORY PROTECTION: No special respiratory protection is required under normal circumstances of use. Use supplied air respiratory protection if the level of Carbon Dioxide exceeds exposure limits presented in Section 2 (Composition and Information of Ingredients) and oxygen levels are below 19.5% or unknown during emergency response to a release of this gas mixture. If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. State regulations, or the Canadian CSA Standard Z94.4-93 and applicable standards of Canadian Provinces.

EYE PROTECTION: Safety glasses. If necessary, refer to U.S. OSHA 29 CFR 1910.133 or appropriate Canadian Standards.

HAND PROTECTION: No special protection is needed under normal circumstances of use. If necessary, refer to U.S. OSHA 29 CFR 1910.138 or appropriate Standards of Canada.

BODY PROTECTION: No special protection is needed under normal circumstances of use. 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.

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

The following information is for Nitrogen, the main component of this gas mixture:

GAS DENSITY@32°F (0°C) and 1 atm:	.072 lbs/ ft^3 (1.153 kg/m^3)
BOILING POINT:	-195.8°C (-320.4°F)
FREEZING/MELTING POINT (@ 10 psig):	-210°C (-345.8°F)
SPECIFIC GRAVITY (air = 1) @ 70°F (21.1°C):	0.906
pH:	Not applicable.
SOLUBILITY IN WATER vol/vol at 32°F (0°C) and 1 atm:	0.023
MOLECULAR WEIGHT:	28.01
EVAPORATION RATE (nBuAc = 1):	Not applicable.
EXPANSION RATIO:	Not applicable.
ODOR THRESHOLD:	Not applicable. Odorless.
SPECIFIC VOLUME (ft^3/lb):	13.8
VAPOR PRESSURE @ 70°F (21.1°C) (psig):	Not applicable.
COEFFICIENT WATER/OIL DISTRIBUTION:	Not applicable.
APPEARANCE, ODOR AND COLOR:	This product is a colorless, odorless gas.
HOW TO DETECT THIS SUBSTANCE (warning properties):	There are no unusual warning properties associated with a release of this product.

The following information is for Helium, a main component of this gas mixture.

GAS DENSITY @ 32°F (0°C) and 1 atm:	0.0103 lbs/cu ft (1.165 kg/m^3)
FREEZING/MELTING POINT (@ 10 psig):	Not Applicable.
BOILING POINT:	-268.9°C (-452.1°F)
SPECIFIC GRAVITY (air = 1) @ 70°F (21.1°C):	0.1381
pH:	Not applicable.
SOLUBILITY IN WATER vol/vol at 32°F (0°C)and 1 atm:	0.0094
MOLECULAR WEIGHT:	4.00
EVAPORATION RATE (nBuAc = 1):	Not applicable.
EXPANSION RATIO:	Not applicable.
ODOR THRESHOLD:	Not applicable. Odorless.
SPECIFIC VOLUME (ft^3/lb):	96.7

VAPOR PRESSURE @ 70°F (21.1°C) (psig): Not applicable.
COEFFICIENT WATER/OIL DISTRIBUTION: Not applicable.

The following information is for the gas mixture.
APPEARANCE AND COLOR: This gas mixture is a colorless, odorless gas.
HOW TO DETECT THIS SUBSTANCE (warning properties): There are no unusual warning properties associated with a release of this gas mixture.

SECTION 10 - STABILITY and REACTIVITY

DECOMPOSITION PRODUCTS: Methane, a component of this gas mixture, will thermally decompose in air to generate carbon monoxide and carbon dioxide. The other components of this gas mixture do not decompose, per se, but may react with other compounds in the heat of a fire.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Titanium will burn in the Nitrogen component of this gas mixture. Lithium reacts slowly with Nitrogen at ambient temperatures. The Methane component of this gas mixture is also incompatible with strong oxidizers (i.e. chlorine, bromine pentafluoride, oxygen difluoride, and nitrogen trifluoride). The Carbon Dioxide component of this gas mixture will ignite and explode when heated with powdered aluminum, beryllium, cerium alloys, chromium, magnesium-aluminum alloys, manganese, thorium, titanium, and zirconium. In the presence of moisture, Carbon Dioxide will ignite with cesium oxide. Metal acetylides will also ignite and explode on contact with Carbon Dioxide.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Contact with incompatible materials. Cylinders exposed to high temperatures or direct flame can rupture or burst.

SECTION 11 - TOXICOLOGICAL INFORMATION

TOXICITY DATA: The following toxicology data are available for the components of this gas mixture in 1% concentration or greater:

CARBON DIOXIDE: This gas is a simple asphyxiant with physiological effects at high concentration. TCLo(inhalation, rat) = 6 pph/24 hours; reproductive and teratogenic effects LCLo(inhalation, human) = 9 pph/ 5 minutes LCLo(inhalation, mammal) = 90,000 ppm/5 minutes

METHANE: There are no specific toxicology data for Methane. Methane is a simple asphyxiant, which acts to displace oxygen in the environment.

NITROGEN: There are no specific toxicology data for Nitrogen. Nitrogen is a simple asphyxiant, which acts to displace oxygen in the environment.

OXYGEN: The toxicity data for Oxygen are related to exposures in a hyperbaric environment and are not likely to occur in industrial exposure situations.

HELIUM: There are no specific toxicology data for Helium. Helium is a simple asphyxiant (SA), which acts to displace oxygen in the environment.

SUSPECTED CANCER AGENT: The components of this gas mixture are not found on the following lists: FEDERAL OSHA Z LIST, NTP, CAL/OSHA, and IARC; therefore, they are not considered to be, nor suspected to be, cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: This gas mixture is not irritating; however, contact with rapidly expanding gases can cause frostbite to exposed tissue.

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

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of this gas mixture and its components on the human reproductive system. Mutagenicity: No mutagenicity effects have been described for the components of this gas mixture. Embryotoxicity: No embryotoxic effects have been described for the components of this gas mixture. Teratogenicity: This gas mixture is not expected to cause teratogenic effects in humans. Clinical studies involving test animals exposed to high concentrations of Carbon Dioxide indicate teratogenic effects. Reproductive Toxicity: This gas mixture is not expected to cause adverse reproductive effects in humans. Clinical studies involving test animals exposed to high concentrations of Carbon Dioxide indicate reproductive effects.

BIOLOGICAL EXPOSURE INDICES (BEIs): Currently, Biological Exposure Indices (BEIs) have not been determined for this gas mixture.

SECTION 12 - ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ENVIRONMENTAL STABILITY: The gas will be dissipated rapidly in well-ventilated areas. The following environmental data are applicable to the components of this gas mixture.

OXYGEN: Water Solubility = 1 volume Oxygen/32 volumes water at 20°C. Log K_{ow} = -0.65

NITROGEN: Water Solubility = 2.4 volumes Nitrogen/100 volumes water at 0°C; 1.6 volumes Nitrogen/100 volumes water at 20°C.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: No evidence is currently available on this gas mixture's effects on plant and animal life.

EFFECT OF CHEMICAL ON AQUATIC LIFE: No evidence is currently available on this gas mixture's effects on aquatic life.

MATERIAL SAFETY DATA SHEET

SECTION 13 - DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate Federal, State, and local regulations, those of Canada, Australia, EU Member States and Japan. Cylinders with undesired residual product may be safely vented outdoors with the proper regulator. For further information, refer to Section 16 (Other Information).

SECTION 14 - TRANSPORTATION INFORMATION

US DOT, IATA, IMO, ADR:

THIS GAS MIXTURE IS HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

PROPER SHIPPING NAME: Compressed gases, n.o.s. (*Oxygen, Nitrogen)*or the gas component with the next highest concentration next to Nitrogen.

HAZARD CLASS NUMBER and DESCRIPTION: 2.2 (Non-Flammable Gas)

UN IDENTIFICATION NUMBER: UN 1956

PACKING GROUP: Not applicable.

DOT LABEL(S) REQUIRED: Class 2.2 (Non-Flammable Gas)

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (2000): 126

MARINE POLLUTANT: The components of this gas mixture are not classified by the DOT as Marine Pollutants (as defined by 49 CFR 172.101, Appendix B).

SPECIAL SHIPPING INFORMATION: Cylinders should be transported in a secure position, in a well-ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles can present serious safety hazards. If transporting these cylinders in vehicles, ensure these cylinders are not exposed to extremely high temperatures (as may occur in an enclosed vehicle on a hot day). Additionally, the vehicle should be well-ventilated during transportation

Note: DOT 39 Cylinders ship in a strong outer carton (overpack). Pertinent shipping information goes on the outside of the overpack. DOT 39 Cylinders do not have transportation information on the cylinder itself.

U.S. DEPARTMENT OF TRANSPORTATION (DOT) SHIPPING REGULATIONS:

This product is classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101.

TRANSPORT CANADA, TRANSPORTATION OF DANGEROUS GOODS REGULATIONS:

This product is classified as Dangerous Goods, per regulations of Transport Canada.

PROPER SHIPPING NAME: Compressed gases, n.o.s. (*Oxygen, Nitrogen)*or the gas component with the next highest concentration next to Nitrogen.

HAZARD CLASS NUMBER and DESCRIPTION: 2.2 (Non-Flammable Gas)

UN IDENTIFICATION NUMBER: UN 1956

PACKING GROUP: Not Applicable

HAZARD LABEL: Class 2.2 (Non-Flammable Gas)

SPECIAL PROVISIONS: None

EXPLOSIVE LIMIT AND LIMITED QUANTITY INDEX: 0.12

ERAP INDEX: None

PASSENGER CARRYING SHIP INDEX: None

PASSENGER CARRYING ROAD VEHICLE OR PASSENGER CARRYING RAILWAY VEHICLE INDEX: 75

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (2004): 126

Note: Shipment of compressed gas cylinders via Public Passenger Road Vehicle is a violation of Canadian law (Transport Canada Transportation of Dangerous Goods Act, 1992).

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA):

This product is classified as Dangerous Goods, by rules of IATA:

INTERNATIONAL MARITIME ORGANIZATION (IMO) DESIGNATION:

This product is classified as Dangerous Goods by the International Maritime Organization.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR):

This product is classified by the United Nations Economic Commission for Europe to be dangerous goods.

SECTION 15 - REGULATORY INFORMATION

UNITED STATES REGULATIONS

SARA REPORTING REQUIREMENTS: The components of this gas mixture are not subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act, as follows:

TSCA: All components in this product are listed on the US Toxic Substances Control Act (TSCA) inventory of chemicals.

MATERIAL SAFETY DATA SHEET

SARA 311/312:

Acute Health: No Chronic Health: No Fire: No Reactivity: No

U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for this gas. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.

U.S. CERCLA REPORTABLE QUANTITY (RQ): None

OTHER U.S. FEDERAL REGULATIONS: Methane is subject to the reporting requirements of Section 112(r) of the Clean Air Act. The Threshold Quantity for this gas is 10,000 pounds. This gas mixture does not contain any Class I or Class II ozone depleting chemicals (40 CFR part 82). Nitrogen, Helium, Carbon Dioxide and Oxygen are not listed as Regulated Substances, per 40 CFR, Part 68, of the Risk Management for Chemical Releases. Methane is listed under this regulation in Table 3 as a Regulated Substance (Flammable Substance), in quantities of 10,000 lbs (4,553 kg) or greater.

U.S. STATE REGULATORY INFORMATION: The components of this gas mixture are covered under the following specific State regulations:

Alaska - Designated Toxic and Hazardous Substances:	Methane, Carbon Dioxide, Helium.
California - Permissible Exposure Limits for Chemical Contaminants:	Nitrogen, Methane, Carbon Dioxide, Helium.
Florida - Substance List:	Oxygen, Carbon Dioxide, Helium.
Illinois - Toxic Substance List:	Carbon Dioxide, Helium.
Kansas - Section 302/313 List:	No.
Massachusetts - Substance List:	Oxygen, Methane, Carbon Dioxide, Helium.
Michigan - Critical Materials Register:	No.
Minnesota - List of Hazardous Substances:	Methane, Carbon Dioxide, Helium.
Missouri - Employer Information/Toxic Substance List:	Methane, Carbon Dioxide, Helium.
New Jersey - Right to Know Hazardous Substance List:	Oxygen, Nitrogen, Methane, Carbon Dioxide, Helium.
North Dakota - List of Hazardous Chemicals, Reportable Quantities:	No.
Pennsylvania - Hazardous Substance List:	Oxygen, Nitrogen, Methane, Carbon Dioxide, Helium.
Rhode Island - Hazardous Substance List:	Oxygen, Nitrogen, Methane, Carbon Dioxide, Helium.
Texas - Hazardous Substance List:	Carbon Dioxide.
West Virginia - Hazardous Substance List:	Carbon Dioxide.
Wisconsin - Toxic and Hazardous Substances:	Carbon Dioxide.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): This product does not contain any component above the 0.1% level which is listed as a California Proposition 65 chemical.

CANADIAN REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS: All of the components of this product are on the DSL Inventory

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS: The components of this gas mixture are not on the CEPA Priorities Substances Lists.

CANADIAN WHMIS CLASSIFICATION and SYMBOLS: This gas mixture is categorized as a Controlled Product, Hazard Classes A – Compressed Gases, as per the Controlled Product Regulations.

EUROPEAN ECONOMIC COMMUNITY INFORMATION:

EU LABELING AND CLASSIFICATION: Classification of the substance or mixture according to Regulation (EC) No1272/2008. See section 2 for details.

Classification:

[Xn] Harmful; [O] Oxidizer

Risk Phrases: Simple Asphyxiant,

R8: Contact with combustible material may cause fire
R23: Toxic by inhalation
R48/20: Harmful: danger of serious damage to health by prolonged exposure through inhalation

Safety Phrases:

S9: Keep container in a well-ventilated area
S23: Do not breathe gas
S36/37: Wear suitable protective clothing and gloves.

AUSTRALIAN INFORMATION FOR PRODUCT:

AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES (AICS) STATUS: All components of this product are listed on the AICS.

STANDARD FOR THE UNIFORM SCHEDULING OF DRUGS AND POISONS: Not applicable.

MATERIAL SAFETY DATA SHEET

JAPANESE INFORMATION FOR PRODUCT:

JAPANESE MINISTER OF INTERNATIONAL TRADE AND INDUSTRY (MITI) STATUS: The components of this product are not listed as Class I Specified Chemical Substances, Class II Specified Chemical Substances, or Designated Chemical Substances by the Japanese MITI.

INTERNATIONAL CHEMICAL INVENTORIES:

Listing of the components on individual country Chemical Inventories is as follows:

Asia-Pac:	Listed
Australian Inventory of Chemical Substances (AICS):	Listed
Korean Existing Chemicals List (ECL):	Listed
Japanese Existing National Inventory of Chemical Substances (ENCS):	Listed
Philippines Inventory if Chemicals and Chemical Substances (PICCS):	Listed
Swiss Giftliste List of Toxic Substances:	Listed
U.S. TSCA:	Listed

SECTION 16 - OTHER INFORMATION

INFORMATION ABOUT DOT-39 NRC (Non-Refillable Cylinder) PRODUCTS: DOT 39 cylinders ship as hazardous materials when full. Once the cylinders are relieved of pressure (empty) they are not considered hazardous material or waste. Residual gas in this type of cylinder is not an issue because toxic gas mixtures are prohibited. Calibration gas mixtures typically packaged in these cylinders are Nonflammable n.o.s., UN 1956. A small percentage of calibration gases packaged in DOT 39 cylinders are flammable or oxidizing gas mixtures. For disposal of used DOT-39 cylinders, it is acceptable to place them in a landfill if local laws permit. Their disposal is no different than that employed with other DOT containers such as spray paint cans, household aerosols, or disposable cylinders of propane (for camping, torch etc.). When feasible, we recommended recycling for scrap metal content.

MIXTURES: When two or more gases or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an Industrial Hygienist or other trained person when you make your safety evaluation of the end product. Remember, gases and liquids have properties which can cause serious injury or death.

PREPARED BY: Paul Eigbrett Global Safety Management, 10006 Cross Creek Blvd. Suite 440, Tampa, FL 33647