MATERIAL SAFETY DATA SHEET

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

1. PRODUCT IDENTIFICATION

CHEMICAL NAME; CLASS: NON-FLAMMABLE GAS MIXTURE

Containing One of the Following Components in a Nitrogen or Air Balance Gas: Dichlorodifluoromethane, 0.0005-2.0%; Trichlorofluoromethane, 0.0005-2.0%; 1,1,2-Trichloro-1,1,2-trifluoroethane, 0.0005-2.0%; Tetrafluoroethane, 0.0005-2.0%

SYNONYMS: Not Applicable
CHEMICAL FAMILY NAME: Not Applicable
FORMULA: Not Applicable
Document Number: 50040

Note: The Material Safety Data Sheet is for this gas mixture supplied in cylinders with 33 cubic feet (935 liters) or less gas capacity (DOT - 39 cylinders). This MSDS has been developed for various gas mixtures with the composition of components within the ranges listed in Section 2 (Composition and Information on Ingredients). Refer to the product label for information on the actual composition of the product.

PRODUCT USE:	Calibration of Monitoring and Research Equipment
SUPPLIER/MANUFACTURER'S NAME: **ADDRESS**:	AIR LIQUIDE AMERICA CORPORATION 821 Chesapeake Drive Cambridge, MD 21613
EMERGENCY PHONE:	CHEMTREC: 1-800-424-9300
BUSINESS PHONE: General MSDS Information Fax on Demand:	1-410-228-6400 1-713/868-0440 1-800/231-1366

2. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	mole %	EXPOSURE LIMITS IN AIR					
			ACGIH		OSHA			
			TLV ppm	STEL ppm	PEL ppm	STEL ppm	IDLH ppm	OTHER ppm
Dichlorodifluoromethane (Freon 12)	75-71-8	0-2.0%	1000, A4	NE	1000	NE	15,000	NIOSH REL; 1000 DFG MAK: 1000
Trichlorofluoromethane (Freon 11	75-69-4	0-2.0%	NE	1000 C, A4	1000	1000 C (Vacated 1989 PEL)	2000	NIOSH REL; 1000 C DFG MAK: 1000
1,1,2-Trichloro-1,1,2-trifluoroethane (Freon 113)	76-13-1	0-2.0%	1000, A4	1250	1000	1250 (Vacated 1989 PEL)	2000	NIOSH REL; 1000 TWA; 1250 STEL DFG MAK: 500
Tetrafluoroethane (HFC-134a)	811-97-2	0-2.0%	NE	NE	NE	NE	NE	NE
Nitrogen or Air	7727-37-9 132259-10-0	Balance	There are no specific exposure limits for Nitrogen. Nitrogen is a simple asphyxiant (SA). The composition of Air is as follows: 79% Nitrogen and 21% Oxygen. These components and their concentrations have been incorporated into this MSDS. There are no specific exposure limits for Oxygen. Oxygen levels should be maintained above 19.5%.					

NE = Not Established. C = Ceiling Limit. A4 = Not Classifiable as a Human Carcinogen. See Section 16 for Definitions of Terms Used.
NOTE : All WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-1993 format.

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: This product is a colorless, odorless gas. Releases of this product for which Nitrogen is the balance gas may produce oxygen-deficient atmospheres (especially in confined spaces or other poorly-ventilated environments); individuals in such atmospheres may be asphyxiated. Components of this product (1,1,2-Trichloro-1,1,2-trifluoroethane, Tetrafluoromethane, Trichlorofluoromethane, and Dichlorodifluoromethane) may cause drowsiness and other central nervous system effects in high concentrations; however, due to their low concentration in this gas mixture, this is unlikely to occur. If components of this product (1,1,2-Trichloro-1,1,2-trifluoroethane, Tetrafluoromethane, Trichlorofluoromethane, and Dichlorodifluoromethane) are exposed to fire, they may decompose yielding toxic products (i.e. hydrogen fluoride, phosgene, hydrogen chloride, carbonyl fluoride).

SYMPTOMS OF OVER-EXPOSURE BY ROUTE OF EXPOSURE: The most significant route of over-exposure for this product is by inhalation.

INHALATION: Due to the small size of an individual cylinder of this product, no unusual health effects from over-exposure to the product are anticipated under routine circumstances of use. The chief health hazard associated with this gas mixture for which Nitrogen is the balance gas and is released in a small, poorly-ventilated area (i.e. an enclosed or confined space) is the development of 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. Under some circumstances of over-exposure, death may occur. The effects associated with various levels of oxygen are as follows:

CONCENTRATION OF OXYGEN	OBSERVED EFFECT
12-16% Oxygen:	Breathing and pulse rate increased, muscular coor-dination slightly disturbed.
10-14% Oxygen:	Emotional upset, abnormal fatigue, disturbed respiration.
6-10% Oxygen:	Nausea, vomiting, collapse, or loss of consciousness.
Below 6%:	Convulsive movements, possible respiratory collapse, and death.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms. Over-exposure to this gas mixture may cause the following health effects:

ACUTE: Due to the small size of the individual cylinder of this product, no unusual health effects from exposure to the product are anticipated under routine circumstances of use. The most 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, 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: There are currently no known adverse health effects associated with chronic exposure to this gas.

TARGET ORGANS: Respiratory system.

HAZARDOUS MATERIAL INFORMATION SYSTEM

HEALTH	(BLUE)	1
FLAMMABILITY	(RED)	0
REACTIVITY	(YELLOW)	0
PROTECTIVE EQUIPMENT		B

EYES RESPIRATORY HANDS BODY

See Section 8

For Routine Industrial Applications

4. FIRST-AID MEASURES

RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO THIS PRODUCT WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. If necessary, Self-Contained Breathing Apparatus must be worn.

No unusual health effects are anticipated after exposure to this product, due to the small cylinder size. If any adverse symptom develops after over-exposure to this product, remove victim(s) to fresh air as quickly as possible. Only trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation if necessary.

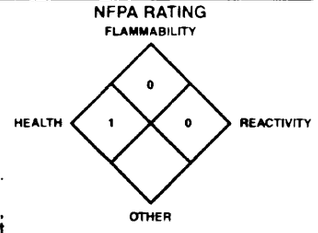
Victim(s) who experience any adverse effect after over-exposure to this product must be taken for medical attention. Rescuers should be taken for medical attention if necessary. Take a copy of the label and the MSDS to physician or other health professional with victim(s).

5. FIRE-FIGHTING MEASURES

FLASH POINT, (method): 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.

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. Additionally, mixtures of this gas for which Air is the balance gas, can support combustion.

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.

6. ACCIDENTAL RELEASE MEASURES

LEAK RESPONSE: Due to the small size and content of the cylinder, an accidental release of this product 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 oxygen. 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.

7. HANDLING and USE

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 product could occur without any significant warning symptoms, due to oxygen deficiency. Do not attempt to repair, adjust, or in any other way modify 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.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

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

RESPIRATORY PROTECTION: No special respiratory protection is required under normal circumstances of use. Use supplied air respiratory protection if oxygen levels are below 19.5% or unknown during emergency response to a release of this product. If respiratory protection is required for emergency response to this product, follow the requirements of the Federal OSHA Respiratory Protection Standard (29 CFR 1910.134) or equivalent State standards.

EYE PROTECTION: Safety glasses.

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

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

9. PHYSICAL and CHEMICAL PROPERTIES

The following information is for Nitrogen, a balance gas:

GAS DENSITY @ 32°F (0°C) and 1 atm: 0.072 lbs/ ft³ (1.153 kg/m³)
BOILING POINT: -320.4 °F (-195.8°C)
FREEZING/MELTING POINT @ 10 psig -345.8°F (-210°C)
SPECIFIC GRAVITY (air = 1) @ 70°F (21.1°C): 0.906
SOLUBILITY IN WATER vol/vol @ 32°F (0°C) and 1 atm: 0.023
EVAPORATION RATE (nBuAc = 1): Not applicable.
ODOR THRESHOLD: Not applicable.
VAPOR PRESSURE @ 70°F (21.1°C) psig: Not applicable.
COEFFICIENT WATER/OIL DISTRIBUTION: Not applicable.
GAS DENSITY @ 70°F (21.1°C) and 1 atm: 0.07493 lb/cu ft (1.2 kg/cu m³)

pH: Not applicable.
MOLECULAR WEIGHT: 28.01
EXPANSION RATIO: Not applicable.
SPECIFIC VOLUME (ft³/lb): 13.8

The following information is for Air, a balance gas:

BOILING POINT: -317.8°F (-194.3°C)
FREEZING/MELTING POINT (@ 10 psig: -357.2°F (-216.2°C)
SOLUBILITY IN WATER: Vol/Vol at 32°F (0°C) 0.0292
SPECIFIC GRAVITY (air = 1) @ 70°F (21.1°C): 1
EVAPORATION RATE (nBuAc = 1): Not applicable.
ODOR THRESHOLD: Not applicable.
SPECIFIC VOLUME (ft³/lb): Not applicable for Air; 13.8 (for Nitrogen)
VAPOR PRESSURE @ 21.1°c; 70°F (psig): Not applicable.
COEFFICIENT WATER/OIL DISTRIBUTION: Not applicable.

MOLECULAR WEIGHT: 28.975
pH: Not applicable.
EXPANSION RATIO: Not applicable.

The following information is for the gas mixture:

APPEARANCE AND COLOR: This product is a colorless, odorless gas.

HOW TO DETECT THIS SUBSTANCE warning properties: In terms of leak detection, fittings and joints can be painted with a soap solution to detect leaks, which will be indicated by a bubble formation.

10. STABILITY and REACTIVITY

STABILITY: Normally stable in gaseous state.

DECOMPOSITION PRODUCTS: If components of this product (1,1,2-Trichloro-1,1,2-trifluoroethane, Tetrafluoromethane, Trichlorofluoromethane, and Dichlorodifluoromethane) are exposed to fire, they may decompose yielding toxic products (i.e. hydrogen fluoride, phosgene, hydrogen chloride, carbonyl fluoride). The other components of this gas mixture do not decompose, per se, but can react with other compounds in the heat of a fire.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Titanium will burn in Nitrogen (a main component of this product). Lithium reacts slowly with Nitrogen at ambient temperatures. Components of this product (1,1,2-Trichloro-1,1,2-trifluoroethane, Tetrafluoromethane, Trichlorofluoromethane, and Dichlorodifluoromethane) are incompatible with sodium, potassium, calcium, zinc, and magnesium, powdered aluminum, and alloys of these metals.

HAZARDOUS POLYMERIZATION: Will not occur.

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

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The following toxicology data are available for the components of this product:

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

DICHLORODIFLUOROMETHANE:
TCLo (inhalation, human) = 200,000 ppm/30 minutes; eye, pulmonary, live
LC50 (inhalation, rat) = 80 pph/30 minutes
LC50 (inhalation, mouse) = 76 pph/30 minutes
LC50 (inhalation, rabbit) = 80 pph/30 minutes
LC50 (inhalation, guinea pig) = 80 pph/30 minutes

TETRAFLUOROETHANE:
TC (Inhalation, rat) = 567,000 hours.

TRICHLOROFLUOROMETHANE:
TDLo (inhalation, human) = 50000 ppm/30 minutes; eye, pulmonary, liver effects.
LCLo (inhalation, rat) = 10 pph/20 minutes
LC_{50} (inhalation, mouse) = 10 pph/30 minutes
LD_{50} (intraperitoneal, mouse) = 1743 mg/kg
LC_{50} (inhalation, rabbit) = 25 pph/30 minutes
LC_{50} (inhalation, guinea pig): 25 pph/20 minutes

1,1,2-TRICHLORO-1,1,2-TRIFLUOROETHANE:
Skin-Rabbit, adult 500 mg open Mild irritation effects
Oral-Rat LD50: 43 g/kg,
Inhalation-Rabbit, adult LC50: 80 pph/30Minute
Inhalation-Mouse LCLo: 25 pph/90 seconds.

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. Dichlorodifluoromethane and Trichlorofluoromethane are listed as ACGIH TLV - A4 (Not Classifiable as a Human Carcinogen).

IRRITANCY OF PRODUCT: Not applicable.

SENSITIZATION TO THE PRODUCT: This gas mixture is not known to cause sensitization in humans.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of this product and its components on the human reproductive system.

Mutagenicity: No mutagenicity effects have been described for this gas mixture.
Embryotoxcity: No embryotoxic effects have been described for this gas mixture.
Teratogenicity: No teratogenicity effects have been described for this gas mixture.
Reproductive Toxicity: No reproductive toxicity effects have been described for gas mixture.

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generation lines. An embryotoxin is a chemical which 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 which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Acute or chronic respiratory conditions may be aggravated by over-exposure to the components of this product.

RECOMMENDATIONS TO PHYSICIANS: Administer oxygen, if necessary; treat symptoms; eliminate exposure. Note: Epinephrine increases the toxicity of Chlorodifluoromethane on the heart.

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

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: The gas will be dissipated rapidly in well-ventilated areas. 1,1,2-Trichloro-1,1,2-trifluoroethane, Trichlorofluoromethane, and Dichlorodifluoromethane are chlorofluorocarbon (CFC) compounds. Chlorofluorocarbon compounds have been implicated in the possible depletion of the stratospheric ozone, via a series of complex chemical reactions which occur in the upper atmosphere. Atmospheric ozone is essential in protecting plants and animals from potentially harmful ultraviolet-light exposures. All work practice must be directed at eliminating environmental contamination. The following environmental data are applicable to the components of this product.

DICHLORODIFLUOROMETHANE: Log Kow = 2.16; Water Solubility = 0.28 g/L 27 25°C.
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 product's effects on plant and animal life.

EFFECT OF CHEMICAL ON AQUATIC LIFE: No evidence is currently available on this product's effects on aquatic life. The following aquatic toxicity data are available for the components of this product.

TETRAFLUOROETHANE:
48 hour EC50 - *Dapnia magna*: 980 mg/L
48 hour LC50 - LC50: 450 mg/L

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORTATION INFORMATION

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

PROPER SHIPPING NAME:	Compressed gases, n.o.s. (Nitrogen, "*Name*" *of Chlorofluorocarbon*) ***or*** (Air, "*Name*" *of Chlorofluorocarbon*)
HAZARD CLASS NUMBER and DESCRIPTION:	2.2 (Non-Flammable Gas)
UN IDENTIFICATION NUMBER:	UN 1956
PACKING GROUP:	Not applicable.
DOT LABEL(S) REQUIRED:	Non-Flammable Gas

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (1996): 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.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: THIS MATERIAL IS CONSIDERED AS DANGEROUS GOODS. Use the above information for the preparation of Canadian Shipments.

15. REGULATORY INFORMATION

SARA REPORTING REQUIREMENTS: This product is subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act, as follows:

COMPONENT	SARA 302	SARA 304	SARA 313
Dichlorodifluoromethane	NO	YES	YES
Trichlorofluoromethane	NO	YES	YES
1,1,2-Trichloro-1,1,2-trifluoroethane	NO	NO	YES

SARA THRESHOLD PLANNING QUANTITY: Not applicable.

TSCA INVENTORY STATUS: The components of this gas mixture are listed on the TSCA Inventory.

CERCLA REPORTABLE QUANTITY (RQ): Dichlorodifluoromethane = 5000 lbs.; Trichlorofluoromethane = 5000 lbs.

OTHER U.S. FEDERAL REGULATIONS:

- 1,1,2-Trichloro-1,1,2-trifluoroethane, Trichlorofluoromethane, and Dichlorodifluoromethane are subject to the requirements of CFR 29 1910.1000. These gases are listed on Table Z.1.
- No component of this gas mixture is subject to the reporting requirements of Section 112(r) of the Clean Air Act.
- 1,1,2-Trichloro-1,1,2-trifluoroethane, Trichlorofluoromethane, and Dichlorodifluoromethane are listed as Class I ozone-depleting chemicals. This product is required to bear the following label:
  Warning: Contains *Name of Chlorofluorocarbon*, a substance which harms public health and environment by destroying ozone in the upper atmosphere.
- Chlorodifluoromethane is subject to the reporting requirements under Title VI of the Clean Air Act Amendments of 1990: "Stratospheric Ozone Protection".
- The components of this gas mixture are not listed in Appendix A as a highly hazardous chemical, per 29 CFR 1910.119: Process Safety Management of Highly Hazardous Chemicals.
- Nitrogen, Oxygen, Tetrafluoromethane, 1,1,2-Trichloro-1,1,2-trifluoroethane, Trichlorofluoromethane, and Dichlorodifluoromethane are not listed as Regulated Substances, per 40 CFR, Part 68, of the Risk Management for Chemical Releases.

OTHER CANADIAN REGULATIONS: This gas mixture is categorized as a Controlled Product, Hazard Class A, as per the Controlled Product Regulations.

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

Alaska - Designated Toxic and Hazardous Substances: Trichlorofluoromethane, Dichlorodifluoro-methane, 1,1,2-Trichloro-1,1,2-trifluoroethane.

California - Permissible Exposure Limits for Chemical Contaminants: Trichlorofluoromethane, Dichlorodifluoro-methane, Nitrogen, 1,1,2-Trichloro-1,1,2-trifluoroethane.

Florida - Substance List: Oxygen, Trichlorofluoromethane, Dichlorodi-fluoromethane, 1,1,2-Trichloro-1,1,2-trifluoro-ethane.

Illinois - Toxic Substance List: Trichlorofluoromethane, Dichlorodi-fluoromethane, 1,1,2-Trichloro-1,1,2-trifluoro-ethane.

Kansas - Section 302/313 List: No.

Massachusetts - Substance List: Trichlorofluoromethane, Dichlorodi-fluoromethane, Oxygen, 1,1,2-Trichloro-1,1,2-trifluoroethane.

Minnesota - List of Hazardous Substances: Trichlorofluoromethane, Dichlorodifluoromethane, 1,1,2-Trichloro-1,1,2-trifluoroethane.

Missouri - Employer Information/Toxic Substance List: Trichlorofluoromethane, Dichlorodifluoromethane, 1,1,2-Trichloro-1,1,2-trifluoroethane.

New Jersey - Right to Know Hazardous Substance List: : Trichlorofluoromethane, Dichlorodifluoromethane, Oxygen, Nitrogen, 1,1,2-Trichloro-1,1,2-trifluoroethane.

North Dakota - List of Hazardous Chemicals, Reportable Quantities: Trichlorofluoromethane, Dichlorodifluoromethane.

Pennsylvania - Hazardous Substance List: Trichlorofluoromethane, Dichlorodi-fluoromethane, Oxygen, Nitrogen, 1,1,2-Trichloro-1,1,2-trifluoro-ethane.

Rhode Island - Hazardous Substance List: Trichlorofluoromethane, Dichloro-difluoromethane, Oxygen.

Texas - Hazardous Substance List: : Trichlorofluoromethane, Dichlorodi-fluoromethane, 1,1,2-Trichloro-1,1,2-trifluoroethane.

West Virginia - Hazardous Substance List: Trichlorofluoromethane, Dichlorodifluoro-methane, 1,1,2-Trichloro-1,1,2-trifluoro-ethane.

Wisconsin - Toxic and Hazardous Substances: Trichlorofluoromethane, Dichlorodifluoromethane, 1,1,2-Trichloro-1,1,2-trifluoroethane.

CALIFORNIA PROPOSITION 65: No component of this product is on the California Proposition 65 lists.

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. Air Liquide America will do this for any customer that wishes to return cylinders to us prepaid. All that is required is a phone call to make arrangements so we may anticipate arrival. Scrapping cylinders involves some preparation before the metal dealer may accept them. We perform this operation as a service to valued customers who want to participate.

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.

Further information about the handling of compressed gases can be found in the following pamphlets published by: Compressed Gas Association Inc. (CGA), 1725 Jefferson Davis Highway, Suite 1004, Arlington, VA 22202-4102. Telephone: (703) 412-0900.

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

PREPARED BY:

CHEMICAL SAFETY ASSOCIATES, Inc.
9163 Chesapeake Drive, San Diego, CA 92123-1002
619/565-0302

Fax on Demand: 1-800/231-1366

This Material Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of Air Liquide America Corporation's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this product is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.