

**AIR LIQUIDE**

MATERIAL SAFETY DATA SHEET

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

1. PRODUCT IDENTIFICATION

CHEMICAL NAME; CLASS: 1,1-DIFLUOROETHANE

SYNONYMS: Difluoroethane; Ethylene Fluoride; Ethylidene Difluoride; Ethylidene Fluoride;
FC 152A; Fluorocarbon 152a; Halocarbon 152A

CHEMICAL FAMILY NAME: Halogenated Hydrocarbon

FORMULA: CH₃CHF₂

PRODUCT USE:	Document Number: 20050 Refrigerant; chemical intermediate in formulation of aerosol dispersants agent; low temperature solvent.
SUPPLIER/MANUFACTURER'S NAME: ADDRESS:	AIR LIQUIDE AMERICA CORPORATION 2700 Post Oak Drive Houston, TX 77056-8229
EMERGENCY PHONE:	CHEMTREC: 1-800-424-9300
BUSINESS PHONE:	General MSDS Information 1-713/896-2896 Fax on Demand: 1-800/231-1366

2. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	mole %	EXPOSURE LIMITS IN AIR					
			ACGIH		OSHA			OTHER
			TLV ppm	STEL ppm	PEL ppm	STEL ppm	IDLH ppm	
1,1-Difluoroethane	75-37-6	100	There are no specific exposure limits for 1,1-Difluoroethane. 1,1-Difluoroethane is a simple asphyxiant (SA). Oxygen levels should be maintained above 19.5%.					

NE = Not Established

C = Ceiling Limit

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: 1,1-Difluoroethane is a colorless, odorless, flammable, liquefied gas. 1,1-Difluoroethane can cause central nervous system depression after inhalation exposures. Symptoms of such over-exposure can include drowsiness, nausea, headache, fatigue, and weakness. At high concentrations, the gas can act as an asphyxiant, by displacing oxygen. Therefore, exposure to high concentrations of this gas can be fatal. Frostbite can be caused by contact with rapidly expanding gases or the liquefied gas. Vapors of 1,1-Difluoroethane are heavier than air and may spread long distances; distant ignition and flash-back are possible. When involved in a fire, toxic decomposition fumes include carbon dioxide, carbon monoxide and hydrogen fluoride. Emergency responders must wear the proper personal protective equipment (and have appropriate fire-suppression equipment) suitable for the situation to which they are responding.

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

Over-exposure by inhalation may cause nausea, headache, weakness or temporary nervous system depression. The effects of central nervous system depression can include headache, confusion, incoordination and loss of consciousness.

Exposures to high concentrations (greater than 20%) of this gas may cause temporary lung irritation effects such as cough, discomfort, difficulty breathing, or shortness of breath. Over-exposure to high concentrations can also lead to temporary alteration of the heart's electrical activity with irregular pulse or palpitations. In addition, over-exposure to high levels of Difluoroethane can cause inadequate circulation, abnormal kidney function (as detected by laboratory tests) and death.

Deliberate abuse of Difluoroethane by aerosol "sniffing" and use or misuse of bronchodilator aerosols can result in death. The cause of death is usually related to irregular heartbeat leading to cardiac arrest. These effects have not been reported in the workplace.

High concentrations of this gas can also 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. Under some circumstances of over-exposure, death may occur. The following effects associated with various levels of oxygen are as follows:

<u>CONCENTRATION</u>	<u>SYMPTOM OF EXPOSURE</u>
12-16% Oxygen:	Breathing and pulse rate increased, muscular coordination slightly disturbed.
10-14% Oxygen:	Emotional upset, abnormal fatigue, disturbed respiration.
6-10% Oxygen:	Nausea and 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 may cause the following health effects:

ACUTE: The most significant hazard associated with this product is inhalation of high concentrations of Difluoroethane. Such over-exposure can cause central nervous system depression and can cause oxygen deficiency. Symptoms of oxygen deficiency include respiratory difficulty, ringing in ears, headaches, shortness of breath, wheezing, headache, dizziness, indigestion, nausea, and, at high concentrations, unconsciousness or death may occur. The skin of a victim of over-exposure may have a blue color.

CHRONIC: There are currently no confirmed adverse health effects on humans associated with chronic exposure to this compressed gas.

TARGET ORGANS: Respiratory system, central nervous system, circulatory system and heart, kidneys.

HAZARDOUS MATERIAL INFORMATION SYSTEM			
HEALTH	(BLUE)	0	
FLAMMABILITY	(RED)	4	
REACTIVITY	(YELLOW)	1	
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. At a minimum, Self-Contained Breathing Apparatus should be worn.

Remove victim(s) to fresh air, as quickly as possible. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Only trained personnel should administer supplemental oxygen.

SKIN EXPOSURE: Contact with the liquid or rapidly expanding gases can cause frostbite. In the event of frostbite, medical attention must be sought. Frozen tissue is painless and appears waxy, with a possible yellow color. Frozen tissue will become swollen, painful and prone to infection when thawed. If the frozen part of the body has been thawed by the time medical attention has been obtained, cover the area with a dry sterile dressing and a large bulky protective covering.

EYE EXPOSURE: If liquid is splashed into eyes, or if irritation of the eye develops after exposure to liquid or gas, open victim's eyes while under gentle running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. Seek medical assistance immediately, preferably an ophthalmologist.

Victim(s) 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).

5. FIRE-FIGHTING MEASURES

FLASH POINT: < 50°C (< 122°F)

AUTOIGNITION TEMPERATURE: Not determined.

FLAMMABLE LIMITS (in air by volume, %):

Lower (LEL): 3.7%

Upper (UEL): 18%

FIRE EXTINGUISHING MATERIALS: Extinguish fires of this gas by shutting-off the source of the gas. Use water spray to cool fire-exposed containers, structures, and equipment. For smaller fires, dry chemical, carbon dioxide and water spray can be used.

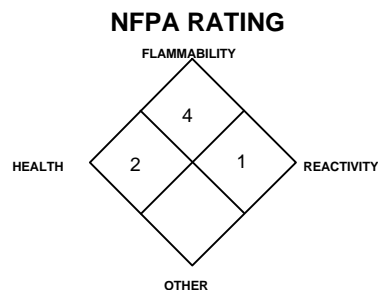
UNUSUAL FIRE AND EXPLOSION HAZARDS: Difluoroethane is extremely flammable and can form explosive mixtures in air. Difluoroethane is heavier than air and vapors of the gas can travel a considerable distance to a source of ignition and flashback. When involved in a fire, this material may decompose and produce toxic gases (i.e. carbon dioxide, carbon monoxide, hydrogen fluoride). Because of the decomposition product of hydrogen fluoride, when involved in a fire, the fumes can be irritating and pose a hazard to firefighters.

DANGER! Fires impinging (direct flame) on the outside surface of unprotected cylinders of Difluoroethane can be very dangerous. Exposure to fire could cause a catastrophic failure of the cylinder releasing the contents into a fireball and explosion of released gas. The resulting fire and explosion can result in severe equipment damage and personnel injury or death over a large area around the cylinder. For massive fires in large areas, use unmanned hose holder or monitor nozzles; if this is not possible, withdraw from area and allow fire to burn.

Explosion Sensitivity to Mechanical Impact: Difluoroethane is not sensitive to mechanical impact.

Explosion Sensitivity to Static Discharge: Difluoroethane is sensitive to static discharge and can ignite.

SPECIAL FIRE-FIGHTING PROCEDURES: Structural fire-fighters must wear Self-Contained Breathing Apparatus and full protective equipment. Because of the potential for a catastrophic failure of cylinders exposed to fire, evacuation of non-emergency personnel is essential. If water is not available for cooling or protection of cylinder exposures, evacuate the area. The North American Emergency Response Guidebook (Guide #115) recommends 0.5 miles.



6. ACCIDENTAL RELEASE MEASURES

LEAK RESPONSE: Evacuate immediate area. Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a release, clear the affected area, protect people, and respond with trained personnel. Adequate fire protection must be provided.

6. ACCIDENTAL RELEASE MEASURES (Continued)

Eliminate any possible sources of ignition, and provide maximum explosion-proof ventilation. If the gas is leaking from cylinder or valve, contact the supplier. Adequate fire protection must be provided. Use only non-sparking tools and equipment during the response.

Minimum Personal Protective Equipment should be **Level B: fire-retardant protective clothing, gloves and Self-Contained Breathing Apparatus**. Use only non-sparking tools and equipment. Locate and seal the source of the leaking gas. Protect personnel attempting the shut-off with water-spray. Allow the gas to dissipate. Combustible gas concentration must be below 10% of the LEL (LEL = 3.7%) prior to entry. Monitor the surrounding area for combustible gas levels and oxygen level. The atmosphere must have at least 19.5 percent oxygen before personnel can be allowed in the area without Self-Contained Breathing Apparatus. Attempt to close the main source valve prior to entering the area. If this does not stop the release (or if it is not possible to reach the valve), allow the gas to release in-place or remove it to a safe area and allow the gas to be released there.

THIS IS AN EXTREMELY FLAMMABLE GAS. Protection of all personnel and the area must be maintained.

7. HANDLING and USE

WORK PRACTICES AND HYGIENE PRACTICES: Be aware of any signs of dizziness or fatigue; exposures to fatal concentrations of Difluoroethane could occur without any significant warning symptoms. Non-sparking tools should be used.

STORAGE AND HANDLING PRACTICES: Cylinders should be stored upright (with valve-protection cap in place) and firmly secured to prevent falling or being knocked over. Cylinders can be stored in the open, but in such cases, should be protected against extremes of weather and from the dampness of the ground to prevent rusting. Cylinders should be stored in dry, well-ventilated areas away from sources of heat, ignition and direct sunlight. Keep storage area clear of materials which can burn. Do not allow area where cylinders are stored to exceed 52 °C (125 °F). Store containers away from heavily trafficked areas and emergency exits. Store away from process and production areas, away from elevators, building and room exits or main aisles leading to exits. Protect cylinders against physical damage.

Cylinders should be separated from oxygen cylinders, or other oxidizers, by a minimum distance of 20 ft., or by a barrier of non-combustible material at least 5 ft. high, having a fire-resistance rating of at least 0.5 hours. Isolate from other incompatible chemicals (refer to Section 10, Stability and Reactivity).

Storage areas must meet national electrical codes for Class 1 Hazardous Areas. Post "No Smoking or Open Flames" signs in storage or use areas. Consider installation of leak detection and alarm for storage and use areas. Have appropriate extinguishing equipment in the storage area (i.e. sprinkler system, portable fire extinguishers).

Keep the smallest amount on-site as is necessary. 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.

Use non-sparking ventilation systems, approved explosion-proof equipment, and appropriate electrical systems. Electrical equipment used in gas-handling operations, or located in storage areas, should be non-sparking or explosion proof. Use a check valve in the discharge line to prevent hazardous backflow. Never tamper with pressure relief devices in valves and cylinders.

SPECIAL PRECAUTIONS FOR HANDLING GAS CYLINDERS: Compressed gases can present significant safety hazards. The following rules are applicable to work situations in which cylinders are being used.

Before Use: Move cylinders with a suitable hand-truck. Do not drag, slide or roll cylinders. Do not drop cylinders or permit them to strike each other. Secure cylinders firmly. Leave the valve protection cap (where provided) in-place until cylinder is ready for use.

During Use: Use designated CGA fittings and other support equipment. Do not use adapters. Do not heat cylinder by any means to increase the discharge rate of the product from the cylinder. Do not use oils or grease on gas-handling fittings or equipment. Immediately contact the supplier if there are any difficulties associated with operating cylinder valve. Never insert an object (e.g wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing a leak to occur. Use an adjustable strap wrench to remove over-tight or rusted caps. Never strike an arc, on a compressed gas cylinder or make a cylinder part of and electric circuit.

After Use: Close main cylinder valve. Valves should be closed tightly. Replace valve protection cap. Mark empty cylinders "EMPTY".

NOTE: Use only DOT or ASME code containers designed for gas storage. Close valve after each use and when empty.

7. HANDLING and USE (Continued)

STANDARD VALVE CONNECTIONS FOR U.S. AND CANADA: Use the proper CGA connections, DO NOT USE ADAPTERS:

<u>THREADED:</u>	CGA 510
<u>PIN-INDEXED YOKE:</u>	Not applicable.
<u>ULTRA HIGH INTEGRITY:</u>	Not applicable.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain 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: Use with adequate ventilation. Provide natural or explosion-proof ventilation adequate to ensure Difluoroethane does not reach its lower flammability limit of 3.7%. Local exhaust ventilation is preferred, because it prevents chemical dispersion into the work place by eliminating it at its source. If appropriate, install automatic monitoring equipment to detect the level of flammable gas.

RESPIRATORY PROTECTION: Maintain oxygen levels above 19.5% in the workplace. Use supplied air respiratory protection if oxygen levels are below 19.5% or during emergency response to a release of this product. If respiratory protection is required, follow the requirements of the Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), or equivalent State standards.

EYE PROTECTION: Splash goggles or safety glasses. Face-shields should be worn if contact with the liquefied gas is anticipated.

HAND PROTECTION: Wear leather gloves or glove protection appropriate to the specific operation for which this product is used.

BODY PROTECTION: Wear leather gloves when handling cylinders of Difluoroethane. Otherwise, wear glove protection appropriate to the specific operation for which Difluoroethane is used. Use low-temperature protective gloves when working with containers of Liquefied Difluoroethane.

9. PHYSICAL and CHEMICAL PROPERTIES

GAS DENSITY @ 21.1°C (70°F) and 1 atm: 0.174 lb/ft³ (2.79 kg/m³)

BOILING POINT @ 1 atm: -12.99°F (-25.0°C)

FREEZING/MELTING POINT @ 1 atm: -178.6°F (-117.0°C)

SPECIFIC GRAVITY (air = 1) @ 21.1°C (70°F): 0.236

SOLUBILITY IN WATER weight % @ 25°C (77°F): Slight.
66.05

EVAPORATION RATE (nBuAc = 1): Not applicable.

ODOR THRESHOLD: Not established.

VAPOR PRESSURE @ 21.1°C (70°F): 77.19 psia

COEFFICIENT WATER/OIL DISTRIBUTION: Log P (oct) = 0.75

APPEARANCE AND COLOR: Colorless, odorless, flammable gas.

HOW TO DETECT THIS SUBSTANCE (warning properties): There are no distinct 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.

pH: Not applicable.

MOLECULAR WEIGHT:

EXPANSION RATIO: Not applicable.

SPECIFIC VOLUME (ft³/lb): 5.74

10. STABILITY and REACTIVITY

STABILITY: Normally stable.

DECOMPOSITION PRODUCTS: If product is exposed to fire, it may decompose yielding toxic products (i.e. hydrogen fluoride, carbon dioxide, carbon monoxide and possibly carbonyl fluoride).

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: The following materials are not compatible with this product: alkaline, alkaline earth metals, and other reactive chemicals, (i.e. sodium, potassium, calcium, magnesium, powdered aluminum, and zinc), metal alloys, brass, and steel.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Avoid contact with incompatible materials and avoid exposing cylinders to extremely high temperatures, which could cause the cylinders to rupture or burst.

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The following information is available for Difluoroethane.

Sex Chromosome Loss and Nondisjunction-Drosophila melanogaster-Inhalation 98 pph/10 minutes
Inhalation-Rat LCLo: 64,000 ppm/4 hours
Inhalation-Mouse LC50: 977 g/m³/2 hours

SUSPECTED CANCER AGENT: Difluoroethane is not found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, CAL/OSHA; therefore is not considered to be, nor suspected to be a cancer-causing agent by these agencies.

IRRITANCY OF PRODUCT: Exposure to high concentrations can be irritating to the respiratory system and contact with rapidly expanding gases can cause frostbite to exposed tissue.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of Difluoroethane on the human reproductive system.

Mutagenicity: No human mutagenicity effects have been described for Difluoroethane. Mutation data is available for this gas, which was obtained during clinical studies on test animals exposed to relatively high doses.

Embryotoxicity: No embryotoxic effects have been described for Difluoroethane.

Teratogenicity: No teratogenicity effects have been described for Difluoroethane.

Reproductive Toxicity: No reproductive toxicity effects have been described for Difluoroethane.

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: Pre-existing respiratory conditions, central nervous system and cardio-vascular conditions may be aggravated by over-exposure to this product.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and reduce over-exposure..

BIOLOGICAL EXPOSURE INDICES (BEIs): Currently, Biological Exposure Indices (BEIs) are not applicable for Difluoroethane.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: The gas will be dissipated rapidly in well-ventilated areas. All work practice must be directed at eliminating environmental contamination.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: Any adverse effect on animals would be related to adverse effects on the cardiovascular system and to exposure to oxygen deficient environments. The symptoms experienced by over-exposed animals would be similar to those described for exposed humans. No adverse effect is anticipated to occur to plant-life, except for frost produced in the presence of rapidly expanding gases.

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

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. Return cylinders with any residual product to Air Liquide. Do not dispose of locally.

14. TRANSPORTATION INFORMATION

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

PROPER SHIPPING NAME: 1,1-Difluoroethane
HAZARD CLASS NUMBER and DESCRIPTION: 2.1 (Flammable Gas)
UN IDENTIFICATION NUMBER: UN 1030
PACKING GROUP: Not applicable.
DOT LABEL(S) REQUIRED: Flammable Gas

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (1996): 115

MARINE POLLUTANT: Difluoroethane is not classified by the DOT as a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B).

14. TRANSPORTATION INFORMATION (Continued)

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 present serious safety hazards and should be discouraged.

NOTE: Shipment of compressed gas cylinders which have not been filled with the owners consent is a violation of Federal law (49 CFR, Part 173.301 (b)).

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: Difluoroethane is not subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act.

SARA THRESHOLD PLANNING QUANTITY: Not applicable.

TSCA INVENTORY STATUS: Difluoroethane is listed on the TSCA Inventory.

CERCLA REPORTABLE QUANTITIES (RQ): Not applicable.

CALIFORNIA PROPOSITION 65: Difluoroethane is not on the California Proposition 65 lists.

STATE REGULATORY INFORMATION: Difluoroethane is covered under the following specific State regulations:

Alaska - Designated Toxic and Hazardous Substances: No.

California - Permissible Exposure Limits for Chemical Contaminants: No.

Florida - Substance List: No.

Illinois - Toxic Substance List: No.

Kansas - Section 302/313 List: No.

Massachusetts - Substance : No.

Minnesota - List of Hazardous Substances: No.

Missouri - Employer Information/Toxic Substance List: No.

New Jersey - Right to Know Hazardous Substance List: Difluoroethane.

North Dakota - List of Hazardous Chemicals, Reportable Quantities: No.

Pennsylvania - Hazardous Substance List: No.

Rhode Island - Hazardous Substance List: No.

Texas - Hazardous Substance List: No.

West Virginia - Hazardous Substance List: No.

Wisconsin - Toxic and Hazardous Substances: No

OTHER U.S. FEDERAL REGULATIONS:

- Difluoroethane is not listed in Appendix A as a highly hazardous chemical, per 29 CFR 1910.119: Process Safety Management of Highly Hazardous Chemicals.
- Difluoroethane is subject to the reporting requirements of Section 112(r) of the Clean Air Act. The Threshold Quantity for of this gas is 10,000 pounds.
- Depending on specific operations involving the use of this product, the regulations of the Process Safety Management of Highly Hazardous Chemicals may be applicable (29 CFR 1910.119). Under this regulation Difluoroethane is not listed in Appendix A, however, any process that involves a flammable gas on-site, in one location, in quantities of 10,000 lbs (4,553 kg) or greater is covered under this regulation unless it is used as a fuel.
- Difluoroethane does not contain any Class I or Class II ozone depleting chemicals (40 CFR part 82).
- Difluoroethane is listed as a Regulated Substance, per 40 CFR, Part 68, of the Risk Management for Chemical Releases as a flammable substance. The threshold quantity for Difluoroethane under this regulation is 10,000 lbs.

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

16. OTHER INFORMATION

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 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	<i>"Safe Handling of Compressed Gases in Containers"</i>
P-14	<i>"Accident Prevention in Oxygen-Rich, Oxygen-Deficient Atmospheres"</i>
SB-2	<i>"Oxygen Deficient Atmospheres"</i>
AV-1	<i>"Safe Handling and Storage of Compressed Gases"</i>
	<i>"Handbook of Compressed Gases"</i>

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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.