



AIR LIQUIDE

MATERIAL SAFETY DATA SHEET

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

1. PRODUCT AND COMPANY INFORMATION

CHEMICAL NAME; CLASS: CHLORODIFLUOROMETHANE

SYNONYMS: Monodifluoromethane; Fluorocarbon 22; Halocarbon 22; Refrigerant 22;
Propellant 22; Halon 22; Freon 22; FC 22; F-22; CFC-22

CHEMICAL FAMILY NAME: Halogenated Aliphatic Hydrocarbon

FORMULA: CHClF_2

PRODUCT USE:

Document Number: 20028

Refrigerant; blowing agent; aerosol propellant
solvent; degreasing agent

**MANUFACTURED/SUPPLIED FOR:
ADDRESS:**



AIR LIQUIDE

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. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: Chlorodifluoromethane is a colorless non-flammable, liquefied gas with a slightly ethereal odor. Chlorodifluoromethane can cause central nervous system depression after inhalation exposures. Symptoms of such over-exposure can include drowsiness, 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. This gas is not flammable and not reactive in normal emergency response situations. However, if involved in a fire, this product can decompose to produce toxic gases (i.e. hydrogen fluoride, phosgene).

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

Exposures to high concentrations of this gas (above 50,000 ppm) may cause central nervous system depression. Effects of such over-exposure can include light-headedness, giddiness, shortness of breath and in extreme cases, irregular heartbeats, cardiac arrest, and death. These symptoms are usually alleviated upon removal to fresh air.

Deliberate abuse of Chlorodifluoromethane by aerosol "sniffing" and use or misuse of bronchodilator aerosols have resulted 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:

CONCENTRATION

12-16% Oxygen:

10-14% Oxygen:

6-10% Oxygen:

Below 6%:

SYMPTOM OF EXPOSURE

Breathing and pulse rate increased, muscular coordination slightly disturbed.

Emotional upset, abnormal fatigue, disturbed respiration.

Nausea and vomiting, collapse or loss of consciousness.

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 Chlorodifluoromethane. 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: Prolonged contact with the skin may cause defatting or dryness of the skin. 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.

3. 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	
Chlorodifluoromethane	75-45-6	100	1000	NE	1000 (Vacated 1989 PEL)	NE	NE	NIOSH REL: 1000 ppm TWA; 1240 ppm, STEL DFG MAK: 500 ppm

This material is classified as hazardous under OSHA regulations in the United States and the WHMIS in Canada.

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 Z400.1-2004 format.

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: 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, inert gas. Use extinguishing media appropriate for surrounding fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: When involved in a fire, this material may decompose and produce toxic gases (i.e. phosgene, hydrogen fluoride, hydrogen chloride, and carbonyl fluoride). Chlorodifluoromethane does not burn; 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 fire-fighters must wear Self-Contained Breathing Apparatus and full protective equipment.

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 leak, clear the affected area, protect people, and respond with trained personnel.

Minimum Personal Protective Equipment should be: **Level B: Self-Contained Breathing Apparatus.** Locate and seal the source of the leaking gas. Colorimetric tubes are available to detect the presence of Chlorodifluoromethane. Readings should be below levels listed in Section 2 (Composition and Information on Ingredients) and the area should be monitored for oxygen levels. The atmosphere must have at least 19.5 percent oxygen before personnel can be allowed in the area without Self-Contained Breathing Apparatus.

If leaking incidentally from the cylinder or its valve, contact your supplier.

7. HANDLING AND STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: Be aware of any signs of dizziness or fatigue; exposures to fatal concentrations of this product could occur without any significant warning symptoms, due to oxygen deficiency.

STORAGE AND HANDLING PRACTICES: Cylinders should be stored upright and be 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. Use only storage containers and equipment (pipes, valves, fittings to relieve pressure, etc.) designed for the temperatures and pressures for the use and storage of Liquid Chlorodifluoromethane.

Use a check valve or other protective device in the discharge line to prevent hazardous backflow. Never tamper with pressure relief valves and cylinders.

Keep the smallest amount necessary on-site at any one time. Full and empty cylinders should be segregated. Use a first-in, first-out inventory systems to prevent full containers from being stored for long periods of time.

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 an 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.

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

<u>THREADED:</u>	0-3000 psig - CGA 660 0 - 500 psig - CGA 165 (limited standard) 0 - 500 psig - CGA 182 (limited standard)
<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. Local exhaust ventilation is preferred, because it prevents gas dispersion into the work place by eliminating it at its source. If appropriate, install automatic monitoring equipment to detect the level of oxygen.

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.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

BODY PROTECTION: Use body protection appropriate for task. Transfer of large quantities under pressure may require protective equipment appropriate to protect employees from splashes of liquefied product. Safety shoes are recommended when handling cylinders.

9. PHYSICAL and CHEMICAL PROPERTIES

GAS DENSITY @ 21.1°C (70°F) and 1 atm: 0.227 lb/ft³ (3.636 kg/m³)

LIQUID DENSITY @ 21.1°C (70°F): 75.27 lb/ft³ (1205.7 kg/m³)

BOILING POINT @ 1 atm: -41.47°F (-40.82°C)

FREEZING/MELTING POINT @ 1 atm: -256°F (-160°C)

SPECIFIC GRAVITY (air = 1) @ 21.1°C (70°F): 3.07

pH: Not applicable.

SOLUBILITY IN WATER weight % @ 25°C (77°F): 0.3%

MOLECULAR WEIGHT: 86.48

EVAPORATION RATE (nBuAc = 1): Not applicable.

EXPANSION RATIO: Not applicable.

ODOR THRESHOLD: Not applicable.

SPECIFIC VOLUME (ft³/lb): 4.41

VAPOR PRESSURE @ 21.1°C (70°F) psig: 121.5

COEFFICIENT WATER/OIL DISTRIBUTION: Not applicable.

APPEARANCE AND COLOR: Colorless, odorless, non-flammable gas. At high concentrations, this gas may have a sweetish, ether-like odor.

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.

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, phosgene, hydrogen chloride, carbonyl fluoride).

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: The following materials are not compatible with this product: sodium, potassium, calcium, zinc, and magnesium, powdered aluminum.

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 Chlorodifluoromethane.

Mutation in Microorganisms System Test
(*Salmonella typhimurium*) = 33 ppm/
24 hours

LC₅₀ (inhalation, rat) = 35 pph/15 minutes

TCLo (inhalation, rat) = 50000 ppm/5
hours (36 day); reproductive effects
Microsomal Mutagenicity Assay
(*Salmonella typhimurium*) = 33 ppm/
24 hours

LC₅₀ (inhalation, rat) = 28 pph/20 minutes
LCLo (inhalation, dog) = 70 pph

SHORT-TERM INHALATION: High concentrations of this product produced stimulation, then depression of the central nervous system; this was followed by asphyxiation. In a 2-hour study, it was found that exposures of 7.5-10% of Chlorodifluoromethane produced excitation and/or changes in the equilibrium of rats and guinea pigs. Unconsciousness occurred at 20% exposures, and death was observed at exposures of 30-40% Chlorodifluoromethane.

Concentrations of less than 20% were not lethal in rats, mice, guinea pigs and dogs. A no-effect level has been established at 1% Chlorodifluoromethane for rats and mice.

LUNGS AND HEART: Effects such as respiratory depression, bronchio-constriction, rapid heart beat, myocardial depression, and low blood pressure occurred in animals breathing 5-25% Chlorodifluoromethane.

LONG-TERM INHALATION: Rats, mice, and rabbits which were exposed to 14% Chlorodifluoromethane over a 10-month period showed the following effects: changes in body weight, physiological endurance, and blood characteristics; pathological changes in the lungs, central nervous system, heart, liver kidneys, and spleen. Test animals similarly exposed to 0.2% Chlorodifluoromethane did not show any adverse health effect.

LIVER: Fat accumulation was observed in animals exposed to relative high doses (mice exposed to 25% Chlorodifluoromethane for 60 minutes and rabbits exposed to 30-40 for 10 minutes). Mild liver changes were observed in rabbits exposed to 6% 5 hours/day for 5 days/week for 8-12 weeks.

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

11. TOXICOLOGICAL INFORMATION (Continued)

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

SENSITIZATION OF PRODUCT: Chlorodifluoromethane is not known to cause sensitization in humans.

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

Mutagenicity: No mutagenicity effects on humans have been described for Chlorodifluoromethane. The following information has been obtained during clinical studies: Chlorodifluoromethane was mutagenic in one bacterial test. The gas does not induce mutation or gene conversion in yeast, or DNA damage or mutation in cultured, mammalian cells. It does not induce chromosomal damage or dominant lethal mutations in mice or rats treated in vivo.

Embryotoxicity: Chlorodifluoromethane has not been reported to cause embryotoxic effects.

Teratogenicity: No teratogenicity effects on humans have been described for Chlorodifluoromethane. The following information has been obtained during clinical studies: In a large tetrology study (18,000 fetuses) in rats, there was a weak, but significant increase in eye defects at 5000 ppm. A tetrology study in rabbits was negative.

Reproductive Toxicity: No reproductive toxicity effects on humans have been described for Chlorodifluoromethane. The following information has been obtained during clinical studies: Chlorodifluoromethane did not effect male fertility or cause damage to sperm in two dominant lethal assays using up to 10% Chlorodifluoromethane.

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 and cardio-vascular conditions may be aggravated by over-exposure to Chlorodifluoromethane.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and reduce over-exposure. Note: Epinephrine increases the toxicity of Chlorodifluoromethane on the heart.

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

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: This gas will be dissipated rapidly in well-ventilated areas. Chlorodifluoromethane is a chlorofluorocarbon (CFC) compound. 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.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: Any adverse effect on animals would be related to adverse effects on the central nervous 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: Chlorodifluoromethane

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

UN IDENTIFICATION NUMBER: UN 1018

PACKING GROUP: Not applicable.

DOT LABEL(S) REQUIRED: Non-Flammable Gas

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (1996): 126

MARINE POLLUTANT: Chlorodifluoromethane 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: Chlorodifluoromethane 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
Chlorodifluoromethane	NO	NO	YES

SARA Threshold Planning Quantity: Not applicable.

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

CERCLA REPORTABLE QUANTITIES (RQ): Not applicable.

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

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

Alaska - Designated Toxic and Hazardous Substances: Chlorodifluoromethane.

California - Permissible Exposure Limits for Chemical Contaminants: Chlorodifluoro-methane.

Florida - Substance List: Chlorodifluoromethane.

Illinois - Toxic Substance List: No.

Kansas - Section 302/313 List: No.

Massachusetts - Substance List: Chlorodifluoromethane.

Minnesota - List of Hazardous Substances: Chlorodifluoromethane.

Missouri - Employer Information/Toxic Substance List: Chlorodifluoromethane.

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

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

Pennsylvania - Hazardous Substance List: Chlorodifluoromethane.

Rhode Island - Hazardous Substance List: Chlorodifluoromethane.

Texas - Hazardous Substance List: No.

West Virginia - Hazardous Substance List: No.

Wisconsin - Toxic and Hazardous Substances: No.

OTHER U.S. FEDERAL REGULATIONS:

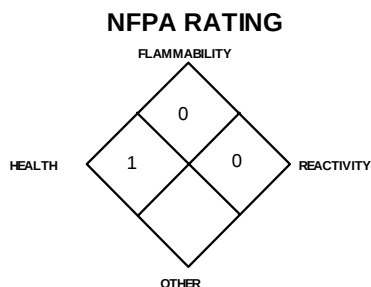
- Chlorodifluoromethane is listed as a Class II ozone-depleting chemical. This product may be required to bear the following label:

Warning: Contains Chlorodifluoromethane, 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". requirements under Title VI of the Clean Air Act Amendments of 1990: "Stratospheric Ozone Protection". of Section 112(r) of the Clean Air Act.
- Chlorodifluoromethane is not listed in Appendix A as a highly hazardous chemical, per 29 CFR 1910.119: Process Safety Management of Highly Hazardous Chemicals.
- Chlorodifluoromethane is not listed as a Regulated Substance, per 40 CFR, Part 68, of the Risk Management for Chemical Accidental Release Prevention.

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

16. OTHER INFORMATION



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		

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), 4221 Walney Road 5th floor, Chantilly, VA 20151-2923 (703) 788-2700.

- P-1 "Safe Handling of Compressed Gases in Containers"
- P-14 "Accident Prevention in Oxygen-Rich, Oxygen-Deficient Atmospheres"
- SB-2 "Oxygen Deficient Atmospheres"
- AV-1 "Safe Handling and Storage of Compressed 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'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.