



# MATERIAL SAFETY DATA SHEET

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

## 1. PRODUCT IDENTIFICATION

**CHEMICAL NAME; CLASS: CARBON DIOXIDE**

**SYNONYMS:** Carbon Anhydride, Carbonic Acid Gas, Carbonic Anhydride, Carbon Dioxide USP

**CHEMICAL FAMILY NAME:** Acid Anhydride

**FORMULA:** CO<sub>2</sub>

**Document Number:** 50008

**Note:** This Material Safety Data Sheet is for Carbon Dioxide supplied in cylinders with 33 cubic feet (935 liters) or less gas capacity (DOT - 39 cylinders). For Carbon Dioxide in large cylinders refer to Document Number 10039.

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

## 2. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	mole %	EXPOSURE LIMITS IN AIR					OTHER ppm
			ACGIH		OSHA			
			TLV ppm	STEL ppm	PEL ppm	STEL ppm	IDLH ppm	
Carbon Dioxide	124-38-9	> 99.5%	5000	30,000	5000 10,000 (Vacated 1989 PEL)	30,000 (Vacated 1989 PEL)	40,000	DFG-MAK: 5000 NIOSH REL TWA: 5000 C: 30000 ppm
Maximum Impurities		< 0.5%	None of the trace impurities in this product contribute significantly to the hazards associated with the product. All hazard information pertinent to this 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 equivalents standards.					

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:** Carbon Dioxide is a colorless, odorless, non-combustible gas. Over-exposure to 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. Exposure to Carbon Dioxide can also cause asphyxiation, through displacement of oxygen. If the gas concentration reaches 10% or more, suffocation can occur within minutes. Moisture in the air could lead to the formation of carbonic acid which can be irritating to the eyes.

**SYMPTOMS OF OVER-EXPOSURE BY ROUTE OF EXPOSURE:** The most significant routes of over-exposure for this gas are by inhalation, and contact with the cryogenic liquid.

**INHALATION:** Due to the small size of an individual cylinder of this product, no unusual health effects from exposure to the product are anticipated under routine circumstances of use. If this product is released in a small, poorly ventilated area (i.e. an enclosed or confined space), and if the concentration of Carbon Dioxide reaches 10% or more, suffocation can occur within minutes. At concentrations between 2-10%, Carbon Dioxide can cause nausea, dizziness, headache, mental confusion, increased blood pressure and respiratory rate. Carbon dioxide is an asphyxiant. Carbon Dioxide initially stimulates respiration and then causes respiratory depression. High concentrations result in narcosis. Symptoms in humans are as follows:



**CONCENTRATION      EFFECT**

1%	Slight increase in breathing rate.
2%	Breathing rate increases to 50% above normal level. Prolonged exposure can cause headache, tiredness.
3%	Breathing increases to twice normal rate and becomes labored. Weak narcotic effect. Impaired hearing, headache, increase in blood pressure and pulse rate.
4-5%	Breathing increases to approximately four times normal rate, symptoms of intoxication become evident and slight choking may be felt.
5-10%	Characteristic sharp odor noticeable. Very labored breathing, headache, visual impairment and ringing in the ears. Judgment may be impaired, followed within minutes by loss of consciousness.
50-100%	Unconsciousness occurs more rapidly above 10% level. Prolonged exposure to high concentrations may eventually result in death from asphyxiation.

High concentrations of this gas can also cause an oxygen-deficient environment. However, the asphyxiating properties of Carbon Dioxide will be reached before oxygen-deficiency is a factor.

**CONTACT WITH SKIN or EYES:** High concentrations of this gas in air may cause eye irritation with symptoms such as pain, redness, and tearing. Prolonged contact of high concentrations with the eyes can cause damage to the retinal ganglion cells.

**HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms.** Over-exposure to Carbon Dioxide may cause the following health effects:

HAZARDOUS MATERIAL INFORMATION SYSTEM			
<b>HEALTH</b>		(BLUE)	1
<b>FLAMMABILITY</b>		(RED)	0
<b>REACTIVITY</b>		(YELLOW)	0
<b>PROTECTIVE EQUIPMENT</b>			B
EYES	RESPIRATORY	HANDS	BODY
	See Section 8		See Section 8
For routine industrial applications			

### 3. HAZARD IDENTIFICATION (Continued)

**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 that Carbon dioxide is an asphyxiant. Inhalation of Carbon Dioxide can cause nausea, dizziness, headache, mental confusion, increased blood pressure and respiratory rate. High concentrations of the gas in air may cause eye irritation. Contact with the eyes can cause damage to the retinal ganglion cells.

**CHRONIC:** There are currently no known adverse health effects associated with chronic exposure to this gas.

**TARGET ORGANS:** Respiratory system, CNS system and eyes.

### 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 equipment should 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. Trained personnel should cardio-pulmonary resuscitation, if necessary. Supplemental oxygen is not normally appropriate.

**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) 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 copy of label and 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.

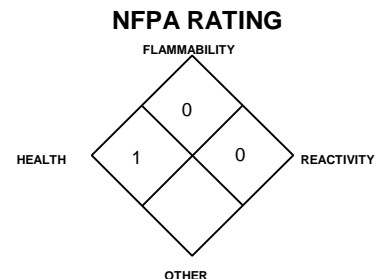
**FIRE EXTINGUISHING MATERIALS:** Carbon Dioxide is commonly used as an extinguishing agent, and therefore, should not present a problem when trying to control a blaze. Use extinguishing media appropriate for surrounding fire.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Carbon Dioxide does not burn; however, containers, when involved in fire, may rupture or burst in the heat of the fire. Dusts of various reactive metals (e.g.: magnesium, zircon, titanium alloys), are readily ignited and explode in the presence of Carbon Dioxide. In the presence of moisture, cesium oxide ignites on contact with Carbon Dioxide. Metal acetylides or hydrides will also ignite or explode. Pressure in a container can build-up due to heat and it may rupture if pressure relief devices should fail to function.

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:** Due to the small size of the cylinder, an accidental release of this product presents significantly less risk 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. Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area, protect people, and respond with trained personnel.

Locate and seal the source of the leaking gas. Allow the gas, to dissipate. Monitor the surrounding area for Carbon Dioxide and oxygen levels. The level of Carbon Dioxide must be below 3%, and the atmosphere must have at least 19.5 percent oxygen before personnel can be allowed in the area without Self-Contained Breathing Apparatus.

## 7. HANDLING and USE

**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.

**STORAGE AND HANDLING PRACTICES:** Cylinders should 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. Isolate from other non compatible chemicals (refer to Section 10, Stability and Reactivity).

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).

Use a check valve in the discharge line to prevent hazardous backflow. Never tamper with cylinders.

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 significantly 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 application equipment is locked and tagged-out safely. Purge gas handling equipment with inert gas (i.e. nitrogen) before attempting repairs. 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 dispersion of this gas 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 Carbon Dioxide level below 3% and 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:** Safety glasses.

**HAND PROTECTION:** Wear leather gloves when handling cylinders of this product. Otherwise, wear glove protection appropriate to the specific operation for which this product is used.

**BODY PROTECTION:** Use body protection appropriate for task. Safety shoes are recommended when handling cylinders.

## 9. PHYSICAL and CHEMICAL PROPERTIES

**GAS DENSITY @ 70°F (21.1°C) and 1 atm:** 0.1144 lb/ft<sup>3</sup> (1.833 kg/m<sup>3</sup>)

**BOILING POINT:** -109.3°F; -78.5°C

**FREEZING/MELTING POINT:** (sublimation temperature) -109.3°F; 78.5°C

**SPECIFIC GRAVITY (air = 1) @ 70°F (21.1°C):** 1.522

**pH:** Not applicable.

**SOLUBILITY IN WATER vol/vol 68°F (20°C) and 1 atm:** 0.90

**MOLECULAR WEIGHT:** 44.01

**EVAPORATION RATE (nBuAc = 1):** Not applicable.

**EXPANSION RATIO:** Not applicable.

**ODOR THRESHOLD:** Not applicable.

**SPECIFIC VOLUME (ft<sup>3</sup>/lb):** 8.76

**VAPOR PRESSURE @ 70°F (21.1°C) (psig):** 838 psig (5778 kPa)

**COEFFICIENT WATER/OIL DISTRIBUTION:** Not applicable.

**APPEARANCE 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.

## 10. STABILITY and REACTIVITY

**STABILITY:** Normally stable.

**DECOMPOSITION PRODUCTS:** None.

**MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE:** Carbon Dioxide 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:** Avoid exposing cylinders of Carbon Dioxide to extremely high temperatures, which could cause the cylinders to rupture or burst.

## 11. TOXICOLOGICAL INFORMATION

**TOXICITY DATA:** Carbon Dioxide gas is an asphyxiant gas, which has physiological effects at high concentrations.

LCLo (inhalation, human) = 9 pph/5 minutes.

LCLo (inhalation, mammal) = 90000 ppm/5 minutes.

TCLo (inhalation, rat) = 6 pph/24 hours; reproductive and teratogenic effects.

**SUSPECTED CANCER AGENT:** Carbon Dioxide 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.

**IRRITANCY OF PRODUCT:** Contact with Liquid Carbon Dioxide or rapidly expanding gases can cause frostbite and damage to exposed skin and eyes.

**SENSITIZATION OF PRODUCT:** Carbon Dioxide is not a sensitizer.

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

Mutagenicity: This product is not expected to cause mutagenic effects in humans.

Embryotoxicity: This product has not been reported to cause embryotoxic effects; see following paragraph for further information.

Teratogenicity: This product 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 product 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.

## 11. TOXICOLOGICAL INFORMATION (Continued)

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 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 this compound.

## 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL STABILITY:** Carbon Dioxide occurs naturally in the atmosphere. The gas will be dissipated rapidly in well-ventilated areas.

**EFFECT OF MATERIAL ON PLANTS or ANIMALS:** Due to the small cylinder size, no adverse effect on animals or plants is anticipated if one cylinder of this product is released.

**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.

For emergency disposal, secure the cylinder and slowly discharge the gas to the atmosphere in a well-ventilated area or outdoors, away from all sources of ignition.

## 14. TRANSPORTATION INFORMATION

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

**PROPER SHIPPING NAME:** Carbon dioxide  
**HAZARD CLASS NUMBER and DESCRIPTION:** 2.2 (Non-Flammable Gas)  
**UN IDENTIFICATION NUMBER:** UN 1013  
**PACKING GROUP:** Not applicable.  
**DOT LABEL(S) REQUIRED:** Non-Flammable Gas  
**NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (1996):** 120

**MARINE POLLUTANT:** Carbon Dioxide is not classified by the DOT as a Marine Pollutant (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:

COMPOUND	SARA 302	SARA 304	SARA 313
Carbon Dioxide	NO	NO	NO

**SARA Threshold Planning Quantity:** Not applicable.

**TSCA INVENTORY STATUS:** Carbon Dioxide is listed on the TSCA Inventory.

**CERCLA REPORTABLE QUANTITY (RQ):** Not applicable.

### OTHER U.S. FEDERAL REGULATIONS:

- Generally recognized as safe (GRAS) as a direct human food ingredient when used as a leavening agent, processing aid, propellant, aerating agent and gas.
- Carbon Dioxide USP is regulated by the FDA as a prescription drug.
- 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 Carbon Dioxide is not listed in Appendix A.
- Carbon Dioxide does not contain any Class I or Class II ozone depleting chemicals (40 CFR part 82).
- Carbon Dioxide is not listed as a Regulated Substance, per 40 CFR, Part 68, of the Risk Management for Chemical Release Prevention.

**CALIFORNIA PROPOSITION 65:** Carbon Dioxide is not on the California Proposition 65 lists.

**STATE REGULATORY INFORMATION:** Carbon Dioxide is covered under the following specific State regulations:

Alaska - Designated Toxic and Hazardous Substances: Carbon Dioxide.

California - Permissible Exposure Limits for Chemical Contaminants: Carbon Dioxide.

Florida - Substance List: Carbon Dioxide.

Illinois - Toxic Substance List: Carbon Dioxide.

Kansas - Section 302/313 List: No.

Massachusetts - Substance List: Carbon Dioxide.

Minnesota - List of Hazardous Substances: Carbon Dioxide.

Missouri - Employer Information/Toxic Substance List: Carbon Dioxide.

New Jersey - Right to Know Hazardous Substance List: Carbon Dioxide.

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

Pennsylvania - Hazardous Substance List: Carbon Dioxide.

Rhode Island - Hazardous Substance List: Carbon Dioxide.

Texas - Hazardous Substance List: No.

West Virginia - Hazardous Substance List: Carbon Dioxide.

Wisconsin - Toxic and Hazardous Substances: Carbon Dioxide.

**OTHER CANADIAN REGULATIONS:** Carbon Dioxide 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.

## 16. OTHER INFORMATION (Continued)

### 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 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.

Further information about Carbon Dioxide 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.

G-6	<i>"Carbon Dioxide"</i>
G-6.1	<i>"Standard for Low Pressure Carbon Dioxide Systems at Customer Sites"</i>
G-6.2	<i>"Commodity Specification for Carbon Dioxide"</i>
G-6.3	<i>"Carbon Dioxide Cylinder Filling and Handling Procedures"</i>
P-1	<i>"Safe Handling of Compressed Gases in Containers"</i>
P-2.6	<i>"Standard Density Data, Atmospheric Gases and Hydrogen"</i>
P-14	<i>"Accident Prevention in Oxygen-Rich and Oxygen Deficient Atmospheres"</i>
SB-2	<i>"Oxygen Deficient Atmospheres"</i>
AV-1	<i>"Safe Handling and Storage of Compressed Gases"</i>
AV-7	<i>"Characteristics and Safe Handling of Carbon Dioxide"</i> <i>"Handbook of Compressed Gases"</i>

**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.