



Material Safety Data Sheet

Carbon Dioxide 2500 ppm Cylinder

(REVISED 2/7/02)

EMERGENCY PHONE: (800) 424-9300

Section 1 - Identification

Product Code: 612-2500-85
Product Name: Cylinder, Carbon Dioxide 2500 ppm, Balance Nitrogen
Synonyms: CO₂ 2500 ppm
Chemical Family: Gas Mixtures
CAS #: N/A
Molecular Formula: CO₂ (2500 ppm) in N₂

NFPA Rating

Health	1
Flammability	0
Reactivity	0
Special	None

Section 2 - Ingredients

Chemical	CAS #	%	OSHA/PEL	ACGIH TLV
Carbon Dioxide	124-38-9	.001 < x < 5	5000 ppm TWA	5000 ppm TWA 30,000 ppm STEL
Nitrogen	7727-37-9	95 < x < 99.999	None	None

Section 3 - Physical Data

Boiling Point: N/A
% Volatiles: N/A
Solubility in Water: Slightly Soluble
Specific Gravity (H₂O = 1): N/A
Freezing / Melting Point: N/A
Evaporation Rate
(butyl acetate = 1): N/A
Vapor Density (air = 1): N/A
Vapor Pressure: N/A
Appearance and Odor: Odorless, colorless gas
Other:

Section 4 - Fire and Explosion Hazard Data

Flash Point (°F):	N/A
Flammable Limits in Air, % by volume:	Lower: None Upper: None
Autoignition Temperature:	N/A
Extinguishing Media:	None required. Use any extinguishing media suitable for surrounding fire.
Special Fire Fighting Procedures:	Wear self-contained breathing apparatus. Stop flow of gas supply if possible. Use water spray to cool surrounding containers until well after flames are extinguished. Cylinders may rupture violently when involved in a fire situation.
NFPA Ratings (Scale 0-4):	Health = 1, Fire = 0, Reactivity = 0

Section 5 - Health Data

OSHA (PEL):	CO ₂	5000 ppm TWA
	N ₂	None
ACGIH (TLV):	CO ₂	5000 ppm TWA, 30,000 ppm STEL
	N ₂	None

ANIMAL TOXICITY

LDLO unr-man:	N/A
LD50: Oral - rat	N/A
Skin - rabbit	N/A
Carcinogenicity:	No

EFFECTS OF EXPOSURE

Acute Effects

Ingestion:	N/A
Skin Contact:	None.
Eye Contact:	May cause irritation.
Inhalation:	Carbon dioxide may act as an asphyxiant depending on concentrations. Depending on inhalation exposure, can cause ringing in the ears, headache, dizziness, nausea, vomiting, heart palpitations, confusion, convulsions, suffocation, unconsciousness, coma, and death.
Medical Conditions, if any, aggravated by the chemical:	None known.
Other health hazards:	Oxygen deficiency during pregnancy has produced developmental abnormalities in humans and experimental animals.
Most likely routes of entry:	Inhalation.

Chronic Effects

Ingestion:	N/A
Skin Contact:	None.
Eye Contact:	None.
Inhalation:	None.
Other:	N/A



Section 5 - Health Data (continued)

EMERGENCY AND FIRST AID PROCEDURES

Ingestion: None Required.
Skin Contact: Remove contaminated clothing and flush skin with warm water for at least 15 minutes. If needed, seek medical attention.
Eye Contact: Remove victim to fresh air. Flush eyes with water for 15 minutes. If needed seek medical attention.
Inhalation: Immediate medical attention is required for all cases of overexposure to carbon dioxide. Rescue personnel should be equipped with self-contained breathing apparatus. Victims should be removed to fresh air. Quick removal from the contaminated area is most important. Keep victim warm and comfortable. The administration of oxygen should be considered if breathing is difficult.

Section 6 - Reactivity

Incompatibility: None.
Hazardous
Decomposition Products: May create carbonic acid in the presence of water or moisture.
Stability: Stable at normal temperatures and pressure.
Hazardous Polymerization: Will not occur.
Other: None

Section 7 - Environmental Information

RCRA Code: N/A
TSCA Registered: No
Spill and Leak Procedures: Remove all personnel from affected areas. Wear appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with inert gas prior to attempting repairs. If leak is in container or valve, contact the appropriate emergency telephone number listed on front page of this MSDS.
Waste Disposal: Dispose in accordance with all applicable federal, state, and local environmental regulations.



Section 8 - Protection Information

Ventilation Requirement: Use hood with forced ventilation system. Use local exhaust to prevent accumulation above the exposure limit.
Respiratory Protection: In conditions of frequent use or heavy exposure, respiratory protection may be needed. Positive pressure air line with mask and escape bottle or self-contained breathing apparatus should be available for emergency use.
Protective Gloves: Gloves made of suitable material.
Eye/Face Protection: Safety goggles.

Section 9 - Special Precautions

Handling and Storage: Use only in well ventilated areas. Do not drag, slide or roll cylinders. Always use a suitable hand truck for moving cylinders. Use a pressure reducing regulator to connect high pressure cylinders with low pressure systems. Store in cool, dry, well ventilated areas. Carbon dioxide gas is heavier than air and will accumulate in low areas.
Other Precautions: Do not heat cylinder by any means. Cylinder temperature should never exceed 125 F. Store cylinders upright and firmly secured to prevent falling or being knocked over. Protect cylinders from physical damage.

Section 10 - Transportation Information - U.S. Department of Transportation

Proper Shipping Name: Compressed gases, n.o.s. (Carbon Dioxide in Nitrogen).
Hazardous Class: 2.2.
UN#: 1956.
Shipping label: Non Flammable Gas
Reportable Quantity: 5,000 lbs.

Section 11 - Comments

This data is offered in good faith as typical values and not as a product specification. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.