

Carbon Dioxide

PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: Carbon Dioxide
Common Name: Carbon Dioxide
SDS Number: 11
Revision Date: 10/21/2015
Version: 2.0
CAS Number: 124-38-9
Chemical Formula: CO2
Product Use: Industrial Use, Medical and Food Applications
Supplier Details: Roberts Oxygen Company, Inc.
P.O. Box 5507
Rockville, MD 20855

Emergency: Chemtrec: 24 hr/day 7 days/wk (800) 424-9300: for spills, leaks, fire, exposure or accidents involving this product
Phone: Customer Service: (301) 948-8100, Mon through Fri from 7:30 am to 5:00 pm ET
Web: www.robertsoxygen.com

HAZARDS IDENTIFICATION

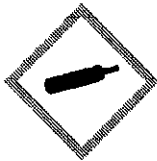
Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):
Physical, Gases Under Pressure, Liquefied Gas

GHS Label elements, including precautionary statements

GHS Signal Word: WARNING

GHS Hazard Pictograms:



GHS Hazard Statements:

H280 - Contains gas under pressure; may explode if heated
OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.
CGA-HG01 - MAY CAUSE FROSTBITE.
CGA-HG03 - MAY INCREASE RESPIRATION AND HEART RATE.

GHS Precautionary Statements:

P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P262 - Do not get in eyes, on skin, or on clothing.
P271+P403 - Use only outdoors or in a well-ventilated area.
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P336 - Thaw frosted parts with lukewarm water. Do not rub affected areas.
P313 - Get medical advice/attention.
OSHA-PG01 - DO NOT REMOVE THIS PRODUCT LABEL (or equivalent wording).
CGA-PG05 - Use a back flow preventive device in the piping.
CGA-PG10 - Use only with equipment rated for cylinder pressure.
CGA-PG06 - Close valve after each use and when empty.
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52 °C (125 °F).
CGA-PG27 - Read and follow the Safety Data Sheet (SDS) before use.

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ACCIDENTAL RELEASE MEASURES

Stop the release or leak if safe to do so.
Evacuate the area and ensure adequate ventilation.
Wear self-contained breathing apparatus (SCBA) when entering area, unless the atmosphere is proven to be safe.

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HANDLING AND STORAGE

Handling Precautions:

Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cap. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents.

Storage Requirements:

For additional storage recommendations, consult Compressed Gas Association's Pamphlet P-1. Store in a cool, well-ventilated place. Store and use with adequate ventilation. Store only where temperature will not exceed 125°F (52°C). Firmly secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods. **OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE:** When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a backflow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

For additional storage recommendations, consult Compressed Gas Association's Pamphlets P-1.

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10 STABILITY AND REACTIVITY

Stability: No reactivity
Conditions to Avoid: Due to the presence of carbon dioxide, carbonic acid is formed in the presence of moisture.
Materials to Avoid: Certain reactive metals, hydrides, moist cesium monoxide, or lithium acetylene carbide diammino may ignite. Passing carbon dioxide over a mixture of sodium peroxide and aluminum or magnesium may explode. Decomposition products of arc welding and cutting originate from the volatilization, reaction, and oxidization of the material being worked
Hazardous Decomposition: Oxygen, Carbon monoxide (CO)
Hazardous Polymerization: None

11 TOXICOLOGICAL INFORMATION

Carbon dioxide (124-38-9) [100%]
 Information on toxicological effects
 Acute toxicity:
 Oral LD50: No data available
 Inhalation LC50
 Dermal LD50
 Other information on acute toxicity
 Skin corrosion/irritation: No data available
 Serious eye damage/eye irritation: No data available
 Respiratory or skin sensitization: No data available
 Germ cell mutagenicity: No data available
 Carcinogenicity: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC, ACGIH, NTP, or OSHA.
 Reproductive toxicity: No data available
 Teratogenicity: No data available
 Specific target organ toxicity - single exposure (Globally Harmonized System): No data available
 Specific target organ toxicity - repeated exposure (Globally Harmonized System): No data available
 Aspiration hazard: No data available
 Potential health effects: Inhalation: May be harmful if inhaled. May cause respiratory tract irritation. Ingestion: May be harmful if swallowed. Skin: May cause severe frostbite. May be harmful if absorbed through skin. May cause skin and eye irritation. Aggravated: Acts as a simple asphyxiant by displacing air.
 Medical Signs and Symptoms of Exposure: Nausea, Dizziness, Headache. Low to medium concentrations of carbon dioxide can: affect regulation of blood circulation, the acidity of body fluids, respiratory difficulties. At high concentrations: Breathing difficulties, increased pulse rate, change in body acidity. Very high concentrations can cause: Unconsciousness, death.
 Synergistic effects: No data available

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OTHER INFORMATION

The information contained in this Safety Data Sheet is believed reliable, based on technical information and industry experience. Roberts Oxygen Company, Inc. provides no warranties or guarantees pertaining to the information provided in connection with the safety suggestions made. Moreover, it should not be assumed that every acceptable safety procedure, precaution, or device is listed. Abnormal or unusual circumstances may warrant or suggest further requirements or additional precautions. Roberts Oxygen Company, Inc. requests Users to thoroughly review this SDS and become aware of the product hazards and safety information. It is the User's responsibility to determine the conditions for safe use of the product and to confirm the compatibility of any other materials in their use or processes that come in contact with this product.

User acknowledges that the chemicals listed may be hazardous and must be handled accordingly. User further acknowledges its understanding that the chemicals listed may be classified by OSHA as hazardous chemicals, and that there are hazards associated with the possession, transportation and use of the chemical(s), containers, and related equipment and that the User must take proper account of those hazards and deal with them appropriately.

User shall warn all persons who may be exposed to any hazards relating to the chemical(s), containers, and related equipment. User acknowledges that the Seller has supplied the User with all relevant (Material) Safety Data Sheets (SDS) relating to the Products, and that additional copies of the SDS are available on request. OSHA regulations require User to develop and implement a written chemical hazard communications program for its employees regarding all hazardous chemicals.

Further, federal, state and local regulations may exist that are not addressed.