

Precision Gas Products Inc.

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Carbon Dioxide in Air

0.0001% to 30%

MATERIAL SAFETY DATA SHEET

Identification

Revision Date 01-01-09

Products Name: CARBON DIOXIDE IN AIR 0.0001% TO 30%

CAS Number: N/A

Chemical Family: Gas Mixture

Chemical formula: CO₂ in N₂

MSDS identification Code/ Number: MSDS 103

Composition/ Information on Ingredients

Concentration
Percent by Weight
< .0001 to 75.0

Ingredient Name

CARBON DIOXIDE CAS Number: 124-38-9

Exposure Limits

- ACGIH TLV-TWA: 5000 ppm
- ACGIH TLV-STEL: 30000 ppm
- IDLH: 50000 ppm
- OSHA PEL-TWA: 5000 ppm (transitional)
- OSHA PEL-TWA: 10000 ppm (final)
- OSHA PEL-STEL: 30000 ppm (final)

AIR None
CAS Number: 25635-85-5

> 70.0 to 99.999

Hazard Identification

No data given

First Aid Measures

Inhalation

Prompt medical attention is mandatory in all cases of overexposure. Rescue personnel should be equipped with self-contained breathing apparatus.

Victims should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, and if breathing has stopped, administer artificial resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

Fire Fighting Measures

Flammable Properties

Flash Point: None

Lower Explosive Limit (%): N/A

Upper Explosive Limit (%): N/A

- Fire and Explosion Hazards: Electrical Classification: Non-hazardous
- Extinguishing Media: Nonflammable, inert gas

Accidental Release Measures

Evacuate all personnel from affected areas. Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is in container or container valve, contact CHEMTREC location for emergency assistance.

Handling and Storage

Handling and Storage Precautions

Use only in well – ventilated areas. Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure-reducing regulator when connecting cylinder to lower pressure (<3000 psig) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous backflow into the system.

Protect cylinders from physical damage. Store in cool, dry, well – ventilated area of noncombustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 130°F (54°C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Use a “first in, first out” inventory system to prevent full cylinders being stored for excessive periods of time. Never carry a compressed gas cylinder or a container of a gas in cryogenic liquid form in an enclosed space such as a car trunk, van or station wagon. A leak can result in a fire, asphyxiation or toxic exposure.

Exposure Controls/Personal Protection

Engineering Controls: Use local exhaust to prevent accumulation of high concentrations so as to reduce the oxygen level in the air to less than 19.5 molar percent.

Eye/Face Protection: Safety goggles or glasses

Skin Protection: Protective gloves of any material.

Respiratory Protection: Positive pressure air line with mask or self-contained breathing apparatus should be available for emergency use.

Other/General Protection: Safety shoes.

Physical & Chemical Properties

Appearance: A colorless gas.

Odor: Odorless gas.

Basic Physical Properties

Vapor Density (Air=1): Approximately 1

Solubility (H₂O): Slightly soluble

Stability & Reactivity

Stability: Stable

Incompatible Materials: None

Hazardous Decomposition Products: Carbonic Acid in the presence of water of moisture.

Hazardous Polymerization: Will not occur

Toxicological Information

Acute Inhalation Effects: Low concentrations of carbon dioxide (3 to 5 molar percent) cause increased respiration and headache. 8 to 15 molar percent concentrations cause headache, nausea and vomiting which may lead to unconsciousness if not moved to open air or given oxygen. Higher concentrations cause rapid circulatory insufficiency leading to coma and death. Maintain oxygen levels above 19.5% at sea level.

Miscellaneous Toxicological Information: Carbon Dioxide is the most powerful cerebral vasodilator known. Inhaling large concentrations causes rapid circulatory insufficiency leading to coma and death. Chronic, harmful effects are not known from repeated inhalation of low (3 to 5 molar percent) concentrations.

Carcinogenicity – NTP: No IARC: No OSHA: No

Ecological Information

No data given

Disposal Considerations

Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or caps secure and valve protection cap in place to Precision Gas Products for proper disposal.

Transport Information

Proper Shipping Name: Compressed Gas, N.O.S. (Air, Carbon Dioxide)

Hazardous Class: 2.2

CT (DOT) Identification Number: UN 1956

CT (DOT) Shipping Label: Nonflammable gas

Regulatory Information

SARA Title III Notifications and Information

SARA Title III – Hazard Class: Acute Health Hazard

Sudden Release of Pressure Hazard

Other Information

Hazard Rating Health: 1 Slight
 Fire: 0 Negligible
 Reactivity: 0 Negligible

MSDS Identification Code/Number: MSDS 103

Reference Documentation

Compressed gas cylinders should not be refilled except by qualified producers of compressed gases. Shipments of a compressed gas cylinder, which has not been filled by the owner or with his (written) consent is a violation of Federal Law (49CFR).

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