

CARBON DIOXIDE

QUICK IDENTIFIER (In Plant Common Name)

Manufacturer's Name:	ANSUL FIRE PROTECTION, WORMALD U.S., INC.	Emergency Telephone No.:	(715) 735-7411
Address:	One Stanton Street, Marinette, WI 54143-2542	Other Information Calls:	Same
Prepared By:	Safety and Health Department	Date Prepared:	June 1, 1986

SECTION 1 — IDENTITY

Common Name: (used on label) (Trade Name and Synonyms)	Carbon Dioxide Carbonic Acid, Carbonic Anhydride	CAS No.:	124-38-9
Chemical Name:	Carbon Dioxide	Chemical Family:	Gas
Formula:	CO ₂		

SECTION 2 — INGREDIENTS**PART A — HAZARDOUS INGREDIENTS**

Principal Hazardous Component(s) (chemical and common name(s)):	%	CAS No.	ACGIH TLV	Acute Toxicity Data
Carbon Dioxide	100	124-38-9	5000 ppm	lhl-hmn LC ₅₀ 100,000 ppm/1m

PART B — OTHER INGREDIENTS

Other Component(s) (chemical and common name(s))	%	CAS No.	Acute Toxicity Data
None	N/A	N/A	N/A

SECTION 3 — PHYSICAL AND CHEMICAL CHARACTERISTICS (Fire and Explosion Data)

Boiling Point:	N/A sublimates	Specific Gravity (H ₂ O = 1):	1.98	Vapor Pressure (mm Hg):	830 psi @ 20 °C
Percent Volatile by Volume (%):	100	Vapor Density (Air = 1):	1.5	Evaporation Rate (= 1):	N/A Gas at room temperature
Solubility in Water:	88 ml CO ₂ per 100 ml H ₂ O @ 20 °C	Reactivity in Water:	Slight-forms H ₂ CO ₃		
Appearance and Odor:	Colorless gas with no odor.				
Flash Point:	None	Flammable Limits in Air % by Volume:	N/A	Extinguisher Media:	N/A
Special Fire Fighting Procedures:	N/A			Auto-ignition Temperature:	N/A

Unusual Fire and Explosion Hazards: Though gas cylinders are equipped with pressure and temperature relief devices, they should be removed from high temperatures or fire to avoid risk of rupture.

SECTION 4 — PHYSICAL HAZARDS

Stability:	Unstable <input type="checkbox"/> Conditions Stable <input checked="" type="checkbox"/> to Avoid: N/A
Incompatibility (Materials to Avoid):	Reacts vigorously with (Al + Na ₂ O ₂), Cs ₂ O, Li, K, Mg (C ₂ H ₅) ₂ , (Mg + Na ₂ O), KHC ₂ , Na, Na ₂ C ₂ , NaK, Ti
Hazardous Decomposition Products:	None
Hazardous Polymerization:	May Occur <input type="checkbox"/> Conditions Will Not Occur <input checked="" type="checkbox"/> to Avoid: N/A

NOTE: As used in Ansul extinguishers, cartridges, or cylinders, CO₂ is a gas compressed under pressures up to 860 psi at 70 °F.

SECTION 5 — HEALTH HAZARDS

Threshold

Limit Value: 5000 ppm is the OSHA PEL and the ACGIH TLV (TWA)

Routes of Entry

Eye Contact: Contact with CO₂ snow (dry ice) can produce chilling sensations and discomfort, also frostbite.

Skin Contact: Evaporation of liquid from the skin can produce chilling sensations. Frostbite can occur.
Avoid CO₂ snow (dry ice).

Inhalation: Vapor is heavier than air and can cause suffocation by reducing oxygen available for breathing. Breathing very high concentrations of vapor can cause lightheadedness, giddiness, shortness of breath, muscular tremors and weakness, acrocyanosis. Also unconsciousness or even death.

Ingestion: Ingestion is not likely to occur since this material is gas at room temperature.

Signs and Symptoms: Acute Overexposure: Dizziness, impaired coordination, reduced mental acuity, headaches, tinnitus, difficulty breathing, drowsiness, depending on length of exposure and concentrations.

Chronic Overexposure: None known when occupational exposures are below the TLV.

Medical Conditions Generally Aggravated by Exposure: Respiratory problems

Chemical Listed as Carcinogen or Potential:

National Toxicology Program: Yes ☐ No ☒

I.A.R.C. Monographs: Yes ☐ No ☒

OSHA: Yes ☐ No ☒

SECTION 6 — EMERGENCY AND FIRST AID PROCEDURES

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes while holding lids open. If redness, itching or a burning sensation develops, get Medical attention. Treat for frostbite if necessary.

Skin Contact: Wash the material off the skin with copious amounts of soap and water for at least 15 minutes. If redness, itching, or burning occurs, get Medical attention. Treat for frostbite if necessary.

Inhalation: Remove victim to fresh air. If cough or other respiratory symptoms occur, consult medical personnel. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Consult Medical personnel.

SECTION 7 — SPECIAL PROTECTION INFORMATION

Respiratory Protection

(Specify Type): Not normally necessary if controls are adequate. If TLV is exceeded or if exposure is prolonged, a self-contained breathing apparatus is recommended..

Ventilation	Local Exhaust:	Recommended in confined spaces.	Mechanical (General):	Recommended
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Protective Gloves: For contact with dry ice

Eye Protection: Chemical goggles recommended when handling liquid. Full faceshield in addition if splashing is possible.

Other Protective Clothing or Equipment: Protective clothing for contact with dry ice.

SECTION 8 — SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

Precautions to be Taken in Handling and Storage: Store containers in a clean, dry well-ventilated area, away from heat above 120 °F. Store as a compressed gas in DOT approved vessels. If cylinder or cartridge is not attached to a system, it must be safely capped to protect against violent vessel movement or force of escaping gas if valve is actuated or seal is punctured.

Other Precautions: Note Incompatibility information in Section 4.

Steps to be Taken in Case Material is Released or Spilled: Evacuate area; ventilate to outside atmosphere. Cool or remove hot, metal surfaces or source of non-extinguished flames.

Waste Disposal Methods: Dispose of in compliance with all local, state, and federal regulations.

N/A — Not-Applicable — NDA — No Data Available