

■ SIGNAL WORD: WARNING H280 / Class 9 Miscellaneous: Dry ice sublimates to CO2 gas. VAPOR MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION. NEVER HANDLE WITH BARE HANDS — causes immediate frostbite (-78.5°C). NEVER store in airtight containers — pressure buildup causes violent rupture.

SECTION 1: IDENTIFICATION

Product Name	Dry Ice
CAS Number	124-38-9 (Carbon Dioxide, Solid)
Synonyms	Carbon Dioxide Solid; Cardice; Drikold; CO2 Snow; UN1845
Molecular Formula	CO2 MW: 44.01 g/mol
Physical Form	White snow-like solid; sublimates directly to gas at -78.5°C (-109.3°F)
Product Use	Refrigerant/cooling agent; cryogenic cold chain shipping; blast cleaning; special effects; laboratory cooling
Supplier	Cannagas Supply 97 Turnpike Rd, Westborough, MA 01581
Phone	877-710-1965
Email	Sales@canna-gas.com
Emergency Phone	CHEMTREC: 1-800-424-9300 (24-hour)
SDS Revision Date	March 2026

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification	Gases Under Pressure — Refrigerated Liquefied Gas (H280). Simple Asphyxiant (SA). DOT: Class 9 Miscellaneous (UN1845).
Signal Word	WARNING
Hazard Statements	H280: Contains gas under pressure (upon sublimation); may cause container rupture. FROSTBITE: Contact with skin or eyes causes immediate cryogenic burns (-78.5°C). ASPHYXIATION: Sublimed CO2 gas displaces oxygen AND exerts direct physiological effects. PRESSURE BUILDUP: Sublimation in sealed containers creates catastrophic over-pressure.
Precautionary – Prevention	NEVER handle with bare hands. Use insulated gloves or tongs. P260: Do not breathe sublimed CO2 gas. P271: Use in well-ventilated area. NEVER store in airtight containers.
Precautionary – Response	FROSTBITE: Thaw with lukewarm water — do not rub. Seek immediate medical attention. INHALATION: Remove to fresh air. Apply artificial respiration if not breathing. Call 911.
Precautionary – Storage	Store in vented insulated containers (e.g., Styrofoam cooler). NEVER in sealed metal, plastic, or glass containers. Store in ventilated areas — CO2 gas accumulates at floor level.
Precautionary – Disposal	Allow to sublimate in well-ventilated outdoor area. NEVER dispose in sink, trash, or closed waste containers.
Other Hazards	PRESSURE HAZARD: Sublimation in a sealed container at 70°F (21°C) builds ~850 psig. This WILL cause violent container rupture. CO2 gas is 1.5x heavier than air — accumulates in low-lying areas without warning.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Concentration	EC Number
Carbon Dioxide, Solid (Dry Ice)	124-38-9	100%	204-696-9

SECTION 4: FIRST-AID MEASURES

Inhalation (sublimed CO2)	EMERGENCY: Remove to fresh air immediately. Apply artificial respiration if not breathing. Administer oxygen if available. Call 911. CO2 gas is both an asphyxiant and physiological toxin.
Skin Contact / Frostbite	EMERGENCY: Do NOT rub frozen tissue — causes tissue damage. Flood affected area with lukewarm (not hot) water for minimum 15 minutes. Remove any contaminated clothing carefully. Seek immediate medical attention. Do NOT apply dry heat or friction.
Eye Contact / Frostbite	EMERGENCY: Rinse immediately with lukewarm water for at least 15 minutes. Seek immediate medical attention — cryogenic eye injury can be severe.
Ingestion	If dry ice has been ingested (rare) — do NOT induce vomiting. Internal frostbite possible. Seek immediate emergency medical care.
Key Symptoms	Frostbite: skin whitening, numbness, pain on thawing, blistering. CO2 inhalation: headache, dizziness, nausea, rapid breathing, unconsciousness.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Negligible fire hazard. Use agent appropriate for surrounding fire.
Specific Hazards	Dry ice itself is not flammable. Sublimed CO2 gas accumulates in low areas — creates oxygen-deficient and CO2-enriched atmosphere for firefighters. SCBA required.
Protective Equipment	SCBA and full protective gear. Move containers from fire area if safe. Cool with water spray. Evacuate for 800m (½ mile) if large release.
Flash Point	Not applicable (non-flammable solid)
Autoignition	Not applicable
Flammable Limits	Not applicable

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions	EVACUATE area. Sublimed CO2 gas accumulates at floor level. Use SCBA if entry required. Open doors and windows to ventilate from low points. NEVER enter a poorly ventilated room with a large dry ice spill.
Environmental Precautions	CO2 is a greenhouse gas — minimize releases. Prevent from entering sewers, basements, and confined spaces.
Containment & Cleanup	NEVER pick up dry ice with bare hands — use insulated gloves or tongs. Place in open, vented insulated container for controlled sublimation outdoors. Ventilate affected area thoroughly.

SECTION 7: HANDLING AND STORAGE

Safe Handling	ALWAYS use insulated gloves (leather/thermal), dry ice tongs, or plastic scoop/shovel. NEVER handle with bare hands — immediate frostbite at -78.5°C. Handle blocks carefully — may cause foot injury if dropped. Use only in well-ventilated areas. Install CO2 monitors in enclosed areas. Only use quantity needed — let excess sublimate in ventilated outdoor area.
Safe Storage	Store in vented insulated containers (Styrofoam cooler preferred). CRITICAL: NEVER store in sealed airtight containers — sublimation creates ~850 psig at room temperature — VIOLENT RUPTURE. Do NOT store in metal, plastic, or glass containers unless specifically rated for dry ice use. Lids must fit loosely to allow CO2 vapor to escape. Store in ventilated area — CO2 accumulates at floor level.
Shelf Life	25–30 lbs (11–14 kg) per day sublimation loss for a 50 lb block in Styrofoam cooler at room temperature.
Incompatibles	Airtight containers. Water (may cause rapid sublimation and pressure buildup).

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Component	Limit Type	Value	Authority
-----------	------------	-------	-----------

Carbon Dioxide (sublimed gas)	TWA	5,000 ppm	OSHA PEL / ACGIH TLV
Carbon Dioxide	STEL	30,000 ppm	ACGIH TLV-STEL
Carbon Dioxide	IDLH	40,000 ppm (4%)	NIOSH
Oxygen (min.)	Minimum safe	19.5% O2 in air	OSHA 29 CFR 1910.146

Engineering Controls CO2 detectors at floor level in enclosed areas. O2 monitors where asphyxiation risk exists. Ventilation at low level (CO2 heavier than air).

Respiratory Protection Not required in well-ventilated areas. SCBA for O2-deficient or high CO2 atmospheres.

Eye/Face Protection Safety glasses minimum. Face shield required when handling dry ice.

Hand Protection Insulated gloves (leather, thermal) — NEVER nitrile gloves alone with dry ice.

Body Protection Lab coat, closed-toe shoes, long pants. Cryogenic apron for large quantities.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State	White snow-like solid	Vapor Pressure	5.73 MPa (830 psi) at 21°C (70°F) in sealed container — EXPLOSION RISK
Odor	Odorless (solid); slightly acidic odor at high gas concentrations	Gas Density	1.96 kg/m3 at 15°C, 1 atm — 1.5x heavier than air
Sublimation Temp.	-78.5°C (-109.3°F) at 1 atm — sublimates directly to gas, NO liquid phase at 1 atm	Expansion Ratio	~1:845 (solid to gas at 15°C, 1 atm)
Melting Point	-56.6°C (-69.9°F) at 5.2 bar (triple point — liquid only above this pressure)	Solubility in Water	Dissolves forming carbonic acid H2CO3
Density (solid)	1,560 kg/m3 (~97 lb/ft3)	Flash Point	Not applicable
Flammability	Non-flammable	Critical Point	31.1°C, 73.8 bar

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical Stability	Stable — sublimates continuously at ambient conditions.
Hazardous Polymerization	Will not occur.
Conditions to Avoid	CRITICAL: Airtight containers — sublimation creates explosive pressure. Heat accelerates sublimation. Water contact increases sublimation rate.
Incompatible Materials	Airtight containers. Strong oxidizers, alkali metals, reactive metals.
Hazardous Decomp. Products	None — dry ice IS the solid form of CO2 and sublimates to CO2 gas.

SECTION 11: TOXICOLOGICAL INFORMATION

Routes of Exposure	Inhalation of sublimed CO2 gas; skin/eye contact (frostbite); ingestion (rare/accidental).
Frostbite	Direct contact with dry ice at -78.5°C causes immediate cryogenic burns. Nitrile exam gloves may freeze to skin — do not use alone for dry ice handling.
CO2 Gas Toxicology	CO2 is directly physiologically active. Unlike nitrogen, exerts effects at normal O2 levels. See CO2 SDS Section 11 for complete toxicological profile.
Carcinogenicity	Not carcinogenic.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity No direct adverse environmental effects from dry ice under normal use.

Global Warming Sublimed CO2 gas has GWP=1. Minimize unnecessary releases.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal Methods Place outside in well-ventilated protected area and allow to sublime. NEVER dispose in trash can, chemical waste container, sink, or toilet (temperature extremes damage plumbing/containers). NEVER seal in a container for disposal — explosive pressure buildup. Discard packaging per local regulations.

SECTION 14: TRANSPORT INFORMATION

	DOT (Ground)	IATA (Air)	IMDG (Sea)
UN Number	UN1845	UN1845 (Qty limits apply)	UN1845
Proper Shipping Name	Carbon dioxide, solid	Carbon dioxide, solid	Carbon dioxide, solid
Hazard Class	9 (Miscellaneous)	9 (Miscellaneous)	Class 9
Packing Group	III	III	III
Special Note	Max 200 kg/package; vented packaging required as dangerous goods; specific packaging required		

Dry ice is regulated as Class 9 miscellaneous dangerous goods. Air transport is specifically regulated by IATA Dangerous Goods Regulations — consult before shipping. Packaging must be vented to allow CO2 gas to escape.

SECTION 15: REGULATORY INFORMATION

OSHA HazCom Classified as hazardous per 29 CFR 1910.1200.

DOT Regulation DOT Class 9 Miscellaneous — regulated when transported by aircraft. Must be in vented packaging. Max 200 kg per package.

TSCA Listed on US TSCA Inventory. 8(a) CDR exempt.

SARA 311/312 Physical Hazard: Yes | Health Hazard: Yes

CERCLA No reportable quantity.

California Prop. 65 Not listed.

SECTION 16: OTHER INFORMATION

Issue Date March 2026

Version 1.0

Prepared By Cannagas Supply

Key Sources GHS Purple Book Rev. 9; OSHA HazCom 2012; Praxair SDS P-4575 (Dry Ice); Purity Cylinders Dry Ice SDS; Continental Carbonic Dry Ice SDS; Cornell EHS Dry Ice Tip Sheet; NIOSH Pocket Guide; ACGIH TLVs.

DISCLAIMER: Information believed to be accurate as of issue date. Cannagas Supply makes no warranty of any kind. Users are responsible for compliance with all applicable regulations.