

# Safety Data Sheet

Carbon Dioxide, refrigerated liquid

US Cylinder Gas

Alsip, IL



## Section 1: Product and Company Identification

**US Cylinder Gas**

Alsip, IL

Product Code: **Liquid Carbon Dioxide**

Part Number: Carbon Dioxide Liquid

**Synonyms:** Liquid CO2

**Recommended Use:** Industrial use. Food applications. Use as directed

**Usage Restrictions:**

## Section 2: Hazards Identification



**Warning**

Hazard Classification:

Gases Under Pressure, H281

Simple Asphyxiant, OSHA-H01

Hazard Statements:

H281: Contains refrigerated gas; may cause cryogenic burns or injury.

CGA-HG01: MAY CAUSE FROSTBITE.

CGA-HG03: MAY INCREASE RESPIRATION AND HEARTRATE.

OSHA-H01: MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.

Precautionary Statements

P202: Do not handle until all safety precautions have been read and understood.

P261: Avoid breathing.

P262: Do not get in eyes, on skin, or on clothing.

P280: Wear protective gloves, protective clothing, eye protection, and/or face protection.

P282: Wear cold insulating gloves, face shield, and eye protection.

P403: Store in a well-ventilated place.

CGA-PG05: Use a back flow preventive device in the piping.  
 CGA-PG06: Close valve after each use and when empty.  
 CGA-PG10+CGA-PG20: Use only with equipment of compatible materials of construction and rated for cylinder pressure.  
 CGA-PG11: Never put cylinders into unventilated areas of passenger vehicles.  
 CGA-PG12: Do not open valve until connected to equipment prepared for use.  
 CGA-PG23: Always keep container in upright position.  
 CGA-PG24: DO NOT change or force fit connections.  
 CGA-PG27: Read and follow the Safety Data Sheet (SDS) before use.

### Section 3: Composition/Information on Ingredients

<b>CAS #</b>
124-38-9

Chemical Substance	Chemical Family	Trade Names
CARBON DIOXIDE, GAS	Inorganic gases	CARBONIC ACID GAS; CARBONIC ANHYDRIDE; CARBON DIOXIDE; CARBON OXIDE; UN 1013; CO2

### Section 4: First Aid Measures

IF ACCIDENTALLY INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention. IF ON SKIN: Get immediate medical advice/attention. Thaw frosted parts with lukewarm water. Do not rub affected area.

### Section 5: Fire Fighting Measures

**Suitable Extinguishing Media:**

Use suitable extinguishing material for surrounding fire.

**Protection of Firefighters:**

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

<b>Products of Combustion</b>
Non-flammable

### Section 6: Accidental Release Measures

Personal Precautions	Environmental Precautions	Methods for Containment
Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering. Do not touch spilled material.	Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.	Stop leak if possible without personal risk.

Methods for Cleanup	Other Information
Stop leak, evacuate, remove source of ignition.	None

## Section 7: Handling and Storage

Handling	Storage
Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.	Store and handle in accordance with all current regulations and standards

## Section 8: Exposure Controls/Personal Protection

Exposure Guidelines
CARBON DIOXIDE, GAS: CARBON DIOXIDE: 5000 ppm (9000 mg/m <sup>3</sup> ) OSHA TWA 10000 ppm (18000 mg/m <sup>3</sup> ) OSHA TWA (vacated by 58 FR 35338, June 30, 1993) 30000 ppm (54000 mg/m <sup>3</sup> ) OSHA STEL (vacated by 58 FR 35338, June 30, 1993) 5000 ppm ACGIH TWA 30000 ppm ACGIH STEL 5000 ppm (9000 mg/m <sup>3</sup> ) NIOSH recommended TWA 10 hour(s) 30000 ppm (54000 mg/m <sup>3</sup> ) NIOSH recommended STEL

### Engineering Controls

Handle only in fully enclosed systems.

Eye Protection	Skin Protection	Respiratory Protection
For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.	For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing. Wear insulated gloves.	Any appropriate escape-type, self-contained breathing apparatus.

### General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

## Section 9: Physical and Chemical Properties

Physical State	Appearance	Color	Change in Appearance	Physical Form	Odor
Gas	Colorless	Colorless	N/A	Gas	Odorless

Taste	Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits
Acid taste	Not flammable	Not available	N/A	Nonflammable	Nonflammable

Lower Explosive Limits	Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity
Nonflammable	Not available	-71 F (-57 C) @ 4000 mmHg	43700 mmHg @ 21 C	1.5 (Air=1)	1.522 @ 21 C

Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity	Molecular Weight
Soluble	3.7 (saturated aqueous solution) @ 101.3 kPa (carbonic acid)	Not available	Not applicable	0.01657 cP @ 0 C	44.01

Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
C-O2	0.114	Not available	Not applicable	Not applicable	Soluble : Alcohol, acetone, hydrocarbons, organic solvents

## Section 10: Stability and Reactivity

Stability	Conditions to Avoid	Incompatible Materials
Stable at normal temperatures and pressure.	Protect from physical damage and heat. Containers may rupture or explode if exposed to heat. Avoid contact with water or moisture.	Combustible materials, oxidizing materials, metal salts, reducing agents, metal carbide, metals, bases

Hazardous Decomposition Products	Possibility of Hazardous Reactions
Carbon monoxide	Will not polymerize.

## Section 11: Toxicology Information

### Acute Effects

Oral LD50	Dermal LD50	Inhalation
Not established	Not established	Ringling in the ears, nausea, irregular heartbeat, headache, drowsiness, dizziness, tingling sensation, visual disturbances, suffocation, convulsions, coma

Eye Irritation	Skin Irritation	Sensitization
Irritation, frostbite, blurred vision	Liquid: blisters, frostbite	Difficulty breathing

### Chronic Effects

Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
Not available	Not established	Available.	No data

## Section 12: Ecological Information

### Fate and Transport

Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Fish toxicity: 150000 ug/L 48 day(s) (Mortality) Brown trout (Salmo trutta) Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Relatively non-persistent in the environment. Moderately volatile from water.	Accumulates very little in the bodies of living organisms.	Leaches through the soil

## Section 13: Disposal Considerations

Dispose in accordance with all applicable regulations.

## Section 14: Transportation Information

### U.S. DOT 49 CFR 172.101


Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Labeling Requirements	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
Carbon dioxide	UN1013	2.2	Not applicable	2.2	75 kg or L	150kg	None

### Canadian Transportation of Dangerous Goods

Shipping Name	UN Number	Class	Packing Group / Risk Group
Carbon dioxide	UN1013	2.2	Not applicable

## Section 15: Regulatory Information

### U.S. Regulations

CERCLA Sections	SARA 355.30	SARA 355.40
Not regulated.	Not regulated.	Not regulated.

### SARA 370.21

Acute	Chronic	Fire	Reactive	Sudden Release
Yes	No	No	No	Yes

### SARA 372.65

Not regulated.
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### OSHA Process Safety

Not regulated.
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### State Regulations

CA Proposition 65
Not regulated.

### Canadian Regulations

WHMIS Classification
A

### National Inventory Status

US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
Listed on inventory.	Not listed.	Listed on inventory.

## Section 16: Other Information

NFPA Rating
HEALTH=3 FIRE=0 REACTIVITY=0 SPECIAL=SA

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard