

# Safety Data Sheet

Material Name: Carbon Dioxide, Solid

SDS ID: 00244557

## Section 1 - PRODUCT AND COMPANY IDENTIFICATION

**Material Name**

Carbon Dioxide, Solid

**Synonyms**

DRY ICE; Gas ID 2187

**Product Use**

Industrial uses.

**Restrictions on Use**

None known.

**Details of the supplier of the safety data sheet**

Continental Carbonic Products, Inc.

3985 East Harrison Avenue

Decatur, IL 62526

Phone: 217-428-2068

Emergency Phone #: Outside the US: 703-527-3887 (Call collect)

Fax: 1-800-424-9300 (CHEMTREC)

## Section 2 - HAZARDS IDENTIFICATION

**Classification in accordance with paragraph (d) of 29 CFR 1910.1200.**

Simple Asphyxiant

**GHS Label Elements**

**Symbol(s)**

None needed according to classification criteria.

**Signal Word**

Warning

**Hazard Statement(s)**

May displace oxygen and cause rapid suffocation.

**Precautionary Statement(s)**

**Prevention**

None needed according to classification criteria.

**Response**

None needed according to classification criteria.

**Storage**

None needed according to classification criteria.

**Disposal**

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Other Hazards**

May cause asphyxia. May cause frostbite.

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
124-38-9	Carbon dioxide, solid	100

## Section 4 - FIRST AID MEASURES

# Safety Data Sheet

**Material Name: Carbon Dioxide, Solid**

**SDS ID: 00244557**

## **Inhalation**

Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, oxygen should be administered by qualified personnel. If breathing has stopped, start artificial respiration at once. Get medical attention.

## **Skin**

If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115°F; 41-46°C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

## **Eyes**

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

## **Ingestion**

If swallowed, get medical attention.

## **Most Important Symptoms/Effects**

### **Acute**

May cause cryogenic burns, suffocation, frostbite

### **Delayed**

no information on significant adverse effects.

## **Indication of any immediate medical attention and special treatment needed**

For inhalation, consider oxygen.

## **Section 5 - FIRE FIGHTING MEASURES**

### **Extinguishing Media**

#### **Suitable Extinguishing Media**

Use extinguishing agents appropriate for surrounding fire.

#### **Unsuitable Extinguishing Media**

None known.

### **Special Hazards Arising from the Chemical**

Negligible fire hazard.

### **Hazardous Combustion Products**

Oxides of carbon

### **Fire Fighting Measures**

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Use extinguishing agents appropriate for surrounding fire. Evacuation radius: 800 meters (1/2 mile). Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

### **Special Protective Equipment and Precautions for Firefighters**

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

## **Section 6 - ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions, Protective Equipment and Emergency Procedures**

Wear personal protective clothing and equipment, see Section 8.

### **Methods and Materials for Containment and Cleaning Up**

Do not touch spilled material. Stop leak if possible without personal risk. Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering. Collect spilled material in appropriate container for disposal.

### **Environmental Precautions**

Avoid release to the environment. Avoid release to the environment.

## **Section 7 - HANDLING AND STORAGE**

# Safety Data Sheet

Material Name: Carbon Dioxide, Solid

SDS ID: 00244557

## Precautions for Safe Handling

Avoid breathing dust, mist, fumes or vapors. Use only outdoors or in a well-ventilated area. Wear cold insulating gloves/face shield/eye protection. Wash hands thoroughly after handling.

## Conditions for Safe Storage, Including any Incompatibilities

None needed according to classification criteria.

Store in accordance with all current regulations and standards. Store in a well-ventilated area. Keep container tightly closed. Keep locked up. Keep away from incompatible materials.

## Incompatible Materials

combustible materials, oxidizing materials, metal salts, reducing agents, metal carbide, metals, bases

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### Component Exposure Limits

Carbon dioxide, solid	124-38-9
ACGIH:	5000 ppm TWA
	30000 ppm STEL
NIOSH:	5000 ppm TWA ; 9000 mg/m <sup>3</sup> TWA
	30000 ppm STEL ; 54000 mg/m <sup>3</sup> STEL
	40000 ppm IDLH
Europe:	5000 ppm TWA ; 9000 mg/m <sup>3</sup> TWA
OSHA (US):	5000 ppm TWA ; 9000 mg/m <sup>3</sup> TWA
Mexico:	5000 ppm TWA VLE-PPT ; 9000 mg/m <sup>3</sup> TWA VLE-PPT
	15000 ppm STEL [PPT-CT ] ; 27000 mg/m <sup>3</sup> STEL [PPT-CT ]

### ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.

### Engineering Controls

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

### Individual Protection Measures, such as Personal Protective Equipment

#### Eye/face protection

Wear splash resistant safety goggles with a faceshield. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

#### Skin Protection

Wear appropriate protective, cold insulating clothing.

#### Respiratory Protection

The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA. 40,000 ppm. Any supplied-air respirator. Any self-contained breathing apparatus with a full facepiece. Emergency or planned entry into unknown concentrations or IDLH conditions -. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Escape -. Any appropriate escape-type, self-contained breathing apparatus.

#### Glove Recommendations

## Safety Data Sheet

Material Name: Carbon Dioxide, Solid

SDS ID: 00244557

Wear insulated gloves.

### Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	white flakes	<b>Physical State</b>	solid
<b>Odor</b>	Not available	<b>Color</b>	white
<b>Odor Threshold</b>	0.14 ppm (Recognition Arsine )	<b>pH</b>	Not available
<b>Melting Point</b>	-70 °C (-94 °F )	<b>Boiling Point</b>	-79 °C (-110 °F )
<b>Boiling Point Range</b>	Not available	<b>Freezing point</b>	Not available
<b>Evaporation Rate</b>	Not available	<b>Flammability (solid, gas)</b>	Not available
<b>Autoignition Temperature</b>	Not available	<b>Flash Point</b>	(Not flammable )
<b>Lower Explosive Limit</b>	Not available	<b>Decomposition temperature</b>	Not available
<b>Upper Explosive Limit</b>	Not available	<b>Vapor Pressure</b>	569 mmHg @ -82 °C
<b>Vapor Density (air=1)</b>	1.5	<b>Specific Gravity (water=1)</b>	1.56 at -79 °C
<b>Water Solubility</b>	1.6 %	<b>Partition coefficient: n-octanol/water</b>	Not available
<b>Viscosity</b>	Not available	<b>Kinematic viscosity</b>	Not available
<b>Solubility (Other)</b>	Not available	<b>Density</b>	1.4 to 1.6 g/cm3
<b>Physical Form</b>	flakes	<b>Sublimation</b>	-78.5 °C (-109 °F Atmospheric pressure )
<b>Molecular Formula</b>	CO <sub>2</sub>	<b>Molecular Weight</b>	44.01

**Solvent Solubility**

**Soluble**

Hydrocarbons, organic solvents

### Section 10 - STABILITY AND REACTIVITY

**Reactivity**

No reactivity hazard is expected.

**Chemical Stability**

Stable at normal temperatures and pressure.

**Possibility of Hazardous Reactions**

Will not polymerize.

# Safety Data Sheet

Material Name: Carbon Dioxide, Solid

SDS ID: 00244557

## Conditions to Avoid

Protect from physical damage and heat. Containers may rupture or explode if exposed to heat. Avoid contact with water or moisture.

## Incompatible Materials

combustible materials, oxidizing materials, metal salts, reducing agents, metal carbide, metals, bases

## Hazardous decomposition products

Oxides of carbon

## Section 11 - TOXICOLOGICAL INFORMATION

### Information on Likely Routes of Exposure

#### Inhalation

ringing in the ears, nausea, irregular heartbeat, headache, drowsiness, dizziness, loss of coordination, tingling sensation, visual disturbances, suffocation, convulsions, coma

#### Skin Contact

blisters, frostbite

#### Eye Contact

irritation, blurred vision, frostbite

#### Ingestion

frostbite

#### Acute and Chronic Toxicity

#### Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

#### Product Toxicity Data

#### Acute Toxicity Estimate

No data available.

#### Immediate Effects

May cause cryogenic burns, suffocation, frostbite

#### Delayed Effects

no information on significant adverse effects.

#### Irritation/Corrosivity Data

May cause cryogenic burns.

#### Respiratory Sensitization

No data available.

#### Dermal Sensitization

No data available.

#### Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA

#### Germ Cell Mutagenicity

No data available.

#### Tumorigenic Data

No data available

#### Reproductive Toxicity

No data available.

#### Specific Target Organ Toxicity - Single Exposure

No target organs identified.

#### Specific Target Organ Toxicity - Repeated Exposure

No target organs identified.

#### Aspiration hazard

No data available.

#### Medical Conditions Aggravated by Exposure

# Safety Data Sheet

Material Name: Carbon Dioxide, Solid

SDS ID: 00244557

None known.

## Section 12 - ECOLOGICAL INFORMATION

### Component Analysis - Aquatic Toxicity

No LOLI ecotoxicity data are available for this product's components.

### Persistence and Degradability

No data available.

### Bioaccumulative Potential

No data available.

### Mobility

No data available.

## Section 13 - DISPOSAL CONSIDERATIONS

### Disposal Methods

Dispose in accordance with all applicable regulations.

### Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

## Section 14 - TRANSPORT INFORMATION

### US DOT Information:

**Further information:** Not regulated as a hazardous material when transported by highway. (Regulated when transported by aircraft or vessel. )

### IMDG Information:

**Shipping Name:** CARBON DIOXIDE, SOLID

**Hazard Class:** 9

**UN#:** UN1845

**Required Label(s):** 9

### International Bulk Chemical Code

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

## Section 15 - REGULATORY INFORMATION

### U.S. Federal Regulations

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

### SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories

Simple Asphyxiant

### U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Carbon dioxide, solid	124-38-9	Yes	Yes	Yes	Yes	Yes

Not listed under California Proposition 65

### Canada Regulations

Canadian WHMIS Ingredient Disclosure List (IDL)

# Safety Data Sheet

**Material Name: Carbon Dioxide, Solid**

**SDS ID: 00244557**

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL

<b>Carbon dioxide, solid</b>	<b>124-38-9</b>
	1 %

**Component Analysis - Inventory**  
**Carbon dioxide, solid (124-38-9)**

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN - NCI (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

**Section 16 - OTHER INFORMATION**

**NFPA Ratings**

Health: 2 Fire: 0 Reactivity: 0 Other: SA

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**Summary of Changes**

Updated: 02/03/2017

**Key / Legend**

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania\*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; NDSL - Non-Domestic Substance List (Canada); NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH - Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW - Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit;

# Safety Data Sheet

**Material Name: Carbon Dioxide, Solid**

**SDS ID: 00244557**

UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN NCI (Draft) - Vietnam National Chemicals Inventory (NCI) (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada) .

## **Other Information**

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