

## CO2 Cartridge

### 1 PRODUCT AND COMPANY IDENTIFICATION

**Vendor Details:** Enviro-Safe Refrigerants, Inc.  
400 Hanna Drive  
Pekin, IL 61554

**Phone:** 309-346-1110  
**Fax:** 309-346-1237  
**Email:** info@es-refrigerants.com  
**Internet:** www.es-refrigerants.com  
**Emergency:** Chemtrec 1-800-424-9300

### 2 HAZARDS IDENTIFICATION

#### Classification of Substance

**GHS Classification in Accordance with 29 CFR 1910 (OSHA HCS):**  
Physical, Gases Under Pressure, Liquefied Gas

#### GHS Label Elements, Including Precautionary Statements

**GHS Signal Word:** **WARNING**

**GHS Hazard Pictograms:**



**GHS Hazard Statements:**

H280 - Contains gas under pressure; may explode if heated

**GHS Precautionary Statements:**

P410 + P403 - Protect from sunlight. Store in a well-ventilated place.

#### Hazards not Otherwise Classified (HNOC) or not Covered by GHS

### 3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Ingredients

CAS#	%	Chemical Name
124-38-9	100%	Carbon dioxide (propellant)

### 4 FIRST AID MEASURES

**Inhalation:** Remove exposed person to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular, or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing air to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin Contact:** Carbon dioxide is harmless at atmospheric pressure. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Eye Contact:** Carbon dioxide is harmless at atmospheric pressure. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

**Ingestion:** Refer to the inhalation section.

## CO2 Cartridge

### 5 FIRE FIGHTING MEASURES

- 5.1. Suitable Extinguishing Media:** Use an extinguishing agent suitable for the surrounding fire.
- 5.2. Unsuitable Extinguishing Media:** None.
- 5.3 Specific Hazards Arising from the Chemical:** Contains gas underpressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.
- 5.4. Explosion Data**  
**Sensitivity to Mechanical Impact:** None.  
**Sensitivity to Static Discharge:** None.
- 5.5. Protective Equipment and Precautions for Firefighters:** As in any fire, wear self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent) and full protective gear.

### 6 ACCIDENTAL RELEASE MEASURES

- 6.1. Personal precautions, protective equipment and emergency procedures:**  
**Personal Precautions:** Provide adequate ventilation. Avoid breathing dust/fume/gas/mist/vapors/spray.  
**For emergency responders:** If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.
- 6.2. Environmental Precautions:**  
**Environmental Precautions:** Avoid disposing into drainage/sewer system or directly into the aquatic environment. Keeping away from drains, surface- and ground-water and soil.
- 6.3. Methods and material for containment and cleaning up:**  
**Methods for Containment:** Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).  
**Methods for Cleaning Up:** This material contains no more than 45 grams of carbon dioxide, in case of spill, allow carbon dioxide to vent naturally. Do not handle the cylinder without protective gloves as it may cause frostbite.

### 7 HANDLING AND STORAGE

- Handling Precautions:** Put on appropriate personal protective equipment. (see Section 8).
- Storage Requirements:** Storage Conditions: Store in accordance with local regulations. Store in a segregated and approved area.  
 Incompatible Materials: Store away from direct sunlight in a dry, cool and well-ventilated area. away from incompatible materials (see Section 10). Cylinder temperatures should not exceed 52°C (125°F).

### 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering Controls:** Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Personal Protective Equipment:** Carbon dioxide (propellant) cas#:(124-38-9) [100%]
- Personal protective equipment
- Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
- Hand protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full contact Material: butyl-rubber Minimum layer thickness: 0.3 mm Break through time: 480 min Material tested: Butoject (KCL 897 / Aldrich Z677647, Size M)
- Splash protection: Material: Chloroprene Minimum layer thickness: 0.6 mm Break through time: 30 min Material tested: Camapren (KCL 722 / Aldrich Z677493, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.
- Eye protection: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

## CO2 Cartridge

Skin and body protection: impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Carbon dioxide (propellant) cas#:(124-38-9) [100%]

Components with workplace control parameters

TWA 5,000 ppm USA. ACGIH Threshold Limit Values (TLV)  
Asphyxia

STEL 30,000 ppm USA. ACGIH Threshold Limit Values (TLV)  
Asphyxia

TWA 10,000 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000  
18,000 mg/m3  
Exposures under 10,000 ppm to be cited as de minimus.

STEL 30,000 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000  
54,000 mg/m3

TWA 5,000 ppm USA. Occupational Exposure Limits (OSHA) - Table Z- 1 Limits for Air Contaminants  
9,000 mg/m3  
The value in mg/m3 is approximate.

TWA 5,000 ppm USA. NIOSH Recommended Exposure Limits  
9,000 mg/m3  
Normal constituent of air (about 300 ppm).

ST 30,000 ppm USA. NIOSH Recommended Exposure Limits  
54,000 mg/m3  
Normal constituent of air (about 300 ppm).

### 9 PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Colorless	<b>Odor:</b>	Odorless
<b>Physical State:</b>	Gas at normal temperature and pressure	<b>Molecular Formula:</b>	CO2
<b>Odor Threshold:</b>	No data available	<b>Solubility:</b>	No data available
<b>Specific Gravity or Density:</b>	8.7719 ft3/lb (m3/g)	<b>Freezing or Melting Point:</b>	Sublimation temperature: -79°C (-110.2°F)
<b>Viscosity:</b>	No data available	<b>Flash Point:</b>	Product does not sustain combustion
<b>Boiling Point:</b>	No data available	<b>Vapor Density:</b>	1.53 (Air = 1), Liquid Density@BP; Solid Density = 97.5 lb/ft3 (1562 kg/m3)
<b>Partition Coefficient:</b>	0.83	<b>Autoignition Temperature:</b>	No data available
<b>Vapor Pressure:</b>	830 psig	<b>UFL / LFL:</b>	No data available
<b>Potentia Hydrogenii:</b>	No data available		
<b>Evaporation Rate:</b>	No data available		
<b>Molecular weight:</b>	44.01 g/mol		
<b>Decompression Temperature:</b>	No data available		

### 10 STABILITY AND REACTIVITY

<b>Reactivity:</b>	No data available.
<b>Chemical Stability:</b>	Stable under normal storage and handling conditions.
<b>Conditions to Avoid Identification:</b>	Humidity, incompatible materials
<b>Materials to Avoid Identification:</b>	Strong acids/alkaline
<b>Hazardous Decomposition:</b>	None
<b>Hazardous Polymerization:</b>	Does not occur.

## CO2 Cartridge

<b>11</b>	<b>TOXICOLOGICAL INFORMATION</b>
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Carbon dioxide (propellant) cas#:(124-38-9) [100%]

Information on toxicological effects:

Acute toxicity:

Oral LD50 no data available

Inhalation LC50

Dermal LD50

Other information on acute toxicity

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitization: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Teratogenicity: no data available

Specific target organ toxicity - single exposure (Globally Harmonized System): no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System): no data available

Aspiration hazard: no data available

Potential health effects: Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Ingestion May be harmful if swallowed. Skin May cause severe frostbite. May be harmful if absorbed through skin. May cause skin

Eyes May cause eye irritation. Aggravated Acts as a simple asphyxiant by displacing air. , Medical Condition

Signs and Symptoms of Exposure: Nausea, Dizziness, Headache, Low to medium concentrations of carbon dioxide can:, affect regulation of blood circulation, affect the acidity of body fluids, respiratory difficulties, At high concentrations:, Breathing difficulties, Increased pulse rate, change in body acidity, Very high concentrations can cause:, Unconsciousness, death

Synergistic effects: no data available

Additional Information: RTECS: FF6400000

<b>12</b>	<b>ECOLOGICAL INFORMATION</b>
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Carbon dioxide (propellant) cas#:(124-38-9) [100%]

Information on ecological effects:

Toxicity: no data available

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: no data available

<b>13</b>	<b>DISPOSAL CONSIDERATIONS</b>
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Waste treatment methods

Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging: Dispose of as unused product.

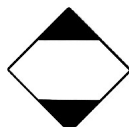
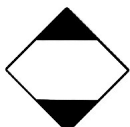
## CO2 Cartridge

### 14 TRANSPORT INFORMATION

DOT Regulation:  
Consumer Commodity, ORM-D

IMDG Regulation:  
Consumer Commodity, ORM-D

IATA Regulation:  
UN1013, Carbon Dioxide, 2.2



### 15 REGULATORY INFORMATION

[%] RQ (CAS#) Substance - Reg Codes

[100%] Carbon dioxide (propellant) (124-38-9) MASS, OSHAWAC, PA, TSCA, TSCAACTV, TXAIR

This product does not contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

Regulatory Code Legend

MASS = MA Massachusetts Hazardous Substances List  
 OSHAWAC = OSHA Workplace Air Contaminants  
 PA = PA Right-To-Know List of Hazardous Substances  
 TSCA = Toxic Substances Control Act  
 TSCAACTV = TSCA Active Chemicals  
 TXAIR = TX Air Contaminants with Health Effects Screening Level

### 16 OTHER INFORMATION

Disclaimer: Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

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