



# Safety Data Sheet

## Carbon Dioxide - Solid, Dry Ice

### Section 1: Product and Company Identification

Cee Kay Supply, Inc  
5835 Manchester Avenue  
Saint Louis, MO 63110  
www.CKSupply.com  
(314) 644-3500

Product Code: Carbon Dioxide - Solid, Dry Ice

### Section 2: Hazards Identification

## Warning

#### Hazard Classification:

Not classified by Globally Harmonized System of Classification and Labeling (GHS) (Category 1)

#### Hazard Statements:

May displace oxygen and cause rapid suffocation. May increase respiration and heart rate. May cause frostbite.

#### Precautionary Statements

##### Prevention:

Keep out of reach of children.  
Read label before use.

##### Response:

If medical advice is needed, have product container or label at hand.

### Section 3: Composition/Information on Ingredients

|          |
|----------|
| CAS #    |
| 124-38-9 |

| Chemical Substance | Chemical Family | Trade Names |
|--------------------|-----------------|-------------|
|--------------------|-----------------|-------------|

| Chemical Substance | Chemical Family | Trade Names  |
|--------------------|-----------------|--|
| CARBON DIOXIDE     | Inorganic gases | CARBONIC ACID GAS; CARBONIC ANHYDRIDE; CARBON DIOXIDE; CARBON OXIDE; UN 1013; CO2; Dry Ice |

## Section 4: First Aid Measures

| Skin Contact   | Eye Contact  | Ingestion               | Inhalation   | Note to Physicians               |
|--|--|-------------------------|--|----------------------------------|
| 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. | Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention. | Do not induce vomiting. | If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention. | For inhalation, consider oxygen. |

## Section 5: Fire Fighting Measures

| Suitable Extinguishing Media | Products of Combustion | Protection of Firefighters  |
|------------------------------|------------------------|---|
| Non-flammable                | Non-flammable          | <ul style="list-style-type: none"> <li>▪ Any appropriate escape-type, self-contained breathing apparatus.</li> <li>▪ Non-flammable</li> </ul> |

## 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  |
|--|--|
| Avoid materials incompatible with cryogenic use; some metals such as carbon steel may fracture easily at low temperature. Vapor can cause rapid suffocation due to oxygen deficiency. Never allow any unprotected part of your body to touch solid carbon dioxide or to touch uninsulated pipes or vessels containing solid or liquid carbon dioxide or cold carbon dioxide gas. Not only can you suffer frostbite, your skin may stick fast to the cold surfaces. Use tongs or insulated gloves when handling solid carbon dioxide or objects in contact cold carbon dioxide in any form. Wear protective clothing and equipment. | Store and use with adequate ventilation. Do not store in tight containers or confined spaces. Storage areas should be clean and dry. Solid carbon dioxide is generally delivered to customers in 50-lb (22.7-kg), 0.5-cubic ft (0.0142 cubic meter) blocks (approximate dimensions), wrapped in kraft paper. Small pellets or nuggets are also produced. The product should be stored in insulated containers that open from the top. Lids should fit loosely so the carbon dioxide vapor given off as the solid sublimates can escape into the atmosphere. Carbon dioxide gas is about 1.5 times as heavy as air and will accumulate in low-lying areas, so ventilation must be adequate at floor or below grade level. |

## Section 8: Exposure Controls/Personal Protection

| Exposure Guidelines  |
|--|
| ACGIH ACGIH TLV-TWA (ppm) 5000 ppm ACGIH ACGIH TLV-STEL (ppm) 30000 ppm USA OSHA OSHA PEL (TWA) (ppm) 5000 ppm |

### Engineering Controls

Handle only in fully enclosed systems.

| Eye Protection  | Skin Protection  | Respiratory Protection   |
|---|--|--|
| 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. | Wear appropriate protective, cold insulating clothing. | 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     | Taste      |
|----------------|------------|-------|----------------------|---------------|----------|------------|
| Solid          | White      | White | Not Applicable       | Solid         | Odorless | Acid taste |

| Flash Point   | Flammability  | Partition Coefficient | Autoignition Temperature | Upper Explosive Limits | Lower Explosive Limits |
|---------------|---------------|-----------------------|--------------------------|------------------------|------------------------|
| Not flammable | Not available | Not Applicable        | Nonflammable             | Nonflammable           | Nonflammable           |

| Boiling Point | Freezing Point                            | Vapor Pressure    | Vapor Density | Specific Gravity | Water Solubility | pH  | Odor Threshold | Evaporation Rate | Viscosity         |
|---------------|---|-------------------|---------------|------------------|------------------|---|----------------|------------------|-------------------|
| Not available | (sublimation temperature) 78.5C (-109.3F) | 43700 mmHg @ 21 C | 1.5 (Air=1)   | 1.522 @ 21 C     | Soluble          | 3.7 (saturated aqueous solution) at 101.3 kPa (carbonic acid) | Not available  | Not applicable   | 0.01657 cP at 0 C |

| Molecular Weight | Molecular Formula | Density | Weight per Gallon | Volatility by Volume | Volatility     | Solvent Solubility  |
|------------------|-------------------|---------|-------------------|----------------------|----------------|---|
| 44.01            | 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. | Stable at normal temperatures and pressure. | 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 | After sublimation: ringing in the ears, nausea, irregular heartbeat, headache, drowsiness, dizziness, tingling sensation, visual disturbances, suffocation, convulsions, coma |

| Eye Irritation | Skin Irritation             | Sensitization   |
|----------------|-----------------------------|---|
| Frostbite      | Liquid: blisters, frostbite | Frostbite. Sublimes to vapor at -109F (-78C). Danger of asphyxiation after sublimation. |

### 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)<br>Invertebrate toxicity: Not available<br>Algal toxicity: Not available<br>Phyto toxicity: Not available<br>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, solid or Dry Ice | UN1845    | 9                        | III           | Not Applicable        | 200kg  | 200kg                                    | None                            |

### Canadian Transportation of Dangerous Goods

| Shipping Name                    | UN Number | Class | Packing Group / Risk Group |
|----------------------------------|-----------|-------|----------------------------|
| Carbon dioxide, solid or Dry Ice | UN1845    | 9     | III                        |

## 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

### OSHA Process Safety

Not regulated

### 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