



# Safety Data Sheet

## Carbon Dioxide

### Section 1: Product and Company Identification

**Geer Gas**

1360 McKinley Ave.  
Columbus, Ohio 43222  
Phone: (614) 272-4337

Chemtrec: Customer #9201  
1-800-424-9300

Product Code: Carbon Dioxide  
Part Number: CO2 50FG

### Section 2: Hazards Identification



## Warning

**Hazard Classification:**

Gases Under Pressure

**Hazard Statements:**

Contains gas under pressure; may explode if heated

**Precautionary Statements****Storage:**

Protect from sunlight.  
Store in well-ventilated place.

### Section 3: Composition/Information on Ingredients

|       |
|-------|
| CAS # |
|-------|

|          |
|----------|
| 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

| 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. | Contact with liquid: 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   |
|---|---|
| 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/m3) OSHA TWA 10000 ppm (18000 mg/m3) OSHA TWA (vacated by 58 FR 35338, June 30, 1993) 30000 ppm (54000 mg/m3) OSHA STEL (vacated by 58 FR 35338, June 30, 1993) 5000 ppm ACGIH TWA 30000 ppm ACGIH STEL 5000 ppm (9000 mg/m3) NIOSH recommended TWA 10 hour(s) 30000 ppm (54000 mg/m3) NIOSH recommended STEL |

### Engineering Controls

Handle only in fully enclosed systems.

| Eye Protection | Skin Protection | Respiratory Protection |
|----------------|-----------------|------------------------|
|                |                 |                        |

| 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. | 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      |
|----------------|------------|-----------|----------------------|---------------|----------|------------|
| Gas            | Colorless  | Colorless | N/A                  | Gas           | Odorless | Acid taste |

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

| Boiling Point | Freezing Point            | Vapor Pressure    | Vapor Density | Specific Gravity | Water Solubility | pH   | Odor Threshold | Evaporation Rate | Viscosity        |
|---------------|---------------------------|-------------------|---------------|------------------|------------------|--|----------------|------------------|------------------|
| Not available | -71 F (-57 C) @ 4000 mmHg | 43700 mmHg @ 21 C | 1.5 (Air=1)   | 1.522 @ 21 C     | Soluble          | 3.7 (saturated aqueous solution) @ 101.3 kPa (carbonic acid) | Not available  | Not applicable   | 0.01657 cP @ 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 | 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)<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       | 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.

### 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/NDL) |
|----------------------|------------------------------|----------------------------|
| 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