Safety Data Sheet

This safety data sheet complies with the requirements of: 2012 OSHA Hazard Communication Standard (29CFR 1910.1200)

Product name  Carbon Dioxide

1. Identification

1.1. Product Identifier
Product name  Carbon Dioxide

1.2. Other means of identification
Product code  004523
UN/ID no  UN1013
Synonyms  None
Chemical Family  No information available

1.3. Recommended use of the chemical and restrictions on use
Recommended use  No information available.
Uses advised against  Consumer use.

1.4. Details of the Supplier of the Safety Data Sheet
Company Name  Tyco Fire Protection Products
One Stanton Street
Marinette, WI 54143-2542
Telephone: 715-735-7411

Contact point  Product Stewardship at 1-715-735-7411
E-mail address  psra@tycofp.com

1.5. Emergency Telephone Number
Emergency telephone  CHEMTREC 800-424-9300 or 703-527-3887

2. Hazards Identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Gases Under Pressure - Compressed Gas
Simple asphyxiants - Yes

2.2. Label Elements

Signal Word
WARNING

Hazard Statements
Contains gas under pressure; may explode if heated
May displace oxygen and cause rapid suffocation

Revision date  22-Feb-2017  Version  30
Precautionary Statements

Storage
Protect from sunlight. Store in a well-ventilated place.

2.3. Hazards Not Otherwise Classified (HNOC)
Simple asphyxiants.

2.4. Other Information
Unknown Acute Toxicity 100% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/information on Ingredients

3.1. Mixture
The following component(s) in this product are considered hazardous under applicable OSHA(USA)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Dioxide</td>
<td>124-38-9</td>
<td>60 - 100</td>
</tr>
</tbody>
</table>

4. First aid measures

4.1. Description of first aid measures
Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water. Get medical attention if irritation develops and persists.

Inhalation Remove to fresh air. If breathing is difficult, give oxygen. (Get medical attention immediately if symptoms occur.).

Ingestion Rinse mouth. Do not induce vomiting without medical advice. If swallowed, call a poison control center or physician immediately.

4.2. Most Important Symptoms and Effects, Both Acute and Delayed
Symptoms Unconsciousness.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed
Note to physicians Treat symptomatically.

5. Fire-fighting measures

5.1. Suitable Extinguishing Media
Product is extinguishing agent. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2. Unsuitable Extinguishing Media
None.
5.3. Specific Hazards Arising from the Chemical
None known.

| Hazardous Combustion Products | Carbon oxides, Fluorinated oxides, Nitrogen oxides (NOx), Oxides of sulfur |

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 pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
- Personal Precautions: Ensure adequate ventilation, especially in confined areas.
- For emergency responders: Use personal protection recommended in Section 8.

6.2. Environmental Precautions
- Environmental Precautions: Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological Information.

6.3. Methods for Containment and Cleaning up
- Methods for Containment: Prevent further leakage or spillage if safe to do so.
- Methods for Cleaning Up: Pick up and transfer to properly labeled containers.

7. Handling and Storage

7.1. Precautions for Safe Handling
- Advice on safe handling: Avoid contact with skin and eyes. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities
- Storage Conditions: Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure Controls/Personal Protection

8.1. Control Parameters

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
<th>Mexico OEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Dioxide</td>
<td>STEL: 30000 ppm</td>
<td>-</td>
<td>IDLH: 40000 ppm</td>
<td>TWA 5000 ppm (VLE-PPT)</td>
</tr>
<tr>
<td>124-38-9</td>
<td>TWA: 5000 ppm</td>
<td>-</td>
<td>TWA: 5000 ppm</td>
<td>TWA 9000 mg/m³</td>
</tr>
</tbody>
</table>

Revision date 22-Feb-2017  Version 30
8.2. Appropriate Engineering Controls

Engineering controls
- Showers
- Eyewash stations
- Ventilation systems.

8.3. Individual protection measures, such as personal protective equipment

Eye/Face Protection
- Avoid contact with eyes. Tight sealing safety goggles.

Skin and Body Protection
- Wear protective gloves and protective clothing.

Respiratory Protection
- If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Ventilation
- Use local exhaust or general dilution ventilation to control exposure with applicable limits

8.4. General hygiene considerations
Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Compressed Gas</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
<td>Color Colorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>-1.4 °C / 28 °F</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
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<td></td>
</tr>
<tr>
<td>Flammability limit in air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
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<td></td>
</tr>
<tr>
<td>Solubility in Other Solvents</td>
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<td></td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Decomposition Temperature</td>
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</tbody>
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ACGIH (American Conference of Governmental Industrial Hygienists) OSHA (Occupational Safety and Health Administration of the US Department of Labor) NIOSH IDLH Immediately Dangerous to Life or Health

Revision date 22-Feb-2017  Version 30
10. Stability and Reactivity

10.1. Chemical Stability
Stable under recommended storage conditions.

10.2. Reactivity
No data available

10.3. Possibility of hazardous reactions
None under normal processing.

    Hazardous Polymerization    Hazardous polymerization does not occur.

10.4. Conditions to Avoid
Extremes of temperature and direct sunlight.

10.5. Incompatible Materials

10.6. Hazardous decomposition products

11. Toxicological Information

11.1. Information on Likely Routes of Exposure

Product information

Inhalation    In high concentration the gas may cause a suffocation. Victim may not be aware of asphyxiation. In confined or poorly ventilated areas, vapors can readily accumulate and can cause unconsciousness and death.

Eye Contact    None known.

Skin contact    None known.

Ingestion    Not an expected route of exposure.

Acute Toxicity

11.2. Information on Toxicological Effects

Symptoms    Unconsciousness.

11.3. Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin Corrosion/Irritation    No information available.

Serious eye damage/eye irritation    No information available.

Sensitization    No information available.
Germ Cell Mutagenicity
No information available.

Carcinogenicity
No information available.

Reproductive Toxicity
Lack of oxygen during pregnancy has produced developmental abnormalities in humans and experimental animals.

STOT - Single Exposure
No information available.

STOT - Repeated Exposure
No information available.

Target organ effects
Respiratory System, Central Vascular System (CVS).

Aspiration Hazard
No information available.

11.4. Numerical Measures of Toxicity - Product information
The following values are calculated based on chapter 3.1 of the GHS document

12. Ecological Information

12.1. Ecotoxicity
The environmental impact of this product has not been fully investigated.

100% of the mixture consists of components(s) of unknown hazards to the aquatic environment

12.2. Persistence and Degradability
No information available.

12.3. Bioaccumulation
No information available.

12.4. Other Adverse Effects
No information available

13. Disposal Considerations

13.1. Waste Treatment Methods
Disposal of wastes
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging
Do not reuse container.

14. Transport Information

DOT
UN/ID no UN1013
Description UN1013, Carbon dioxide, 2.2
Proper Shipping Name Carbon dioxide
Hazard class 2.2
Emergency Response Guide Number 120

TDG
UN/ID no UN1013
Description UN1013, Carbon dioxide, 2.2
<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>Carbon dioxide</th>
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<tr>
<td>Hazard class</td>
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**MEX**

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<tr>
<td>Proper Shipping Name</td>
<td>Carbon dioxide</td>
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<td>Hazard class</td>
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**ICAO (air)**

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<tr>
<td>Description</td>
<td>UN1013, Carbon dioxide, 2.2</td>
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<tr>
<td>Proper Shipping Name</td>
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<tr>
<td>Hazard class</td>
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**IATA**

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<td>UN1013, Carbon dioxide, 2.2</td>
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<tr>
<td>Proper Shipping Name</td>
<td>Carbon dioxide</td>
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<td>Hazard class</td>
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<tr>
<td>ERG Code</td>
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**IMDG**

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<th>UN1013</th>
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<td>Description</td>
<td>UN1013, Carbon dioxide, 2.2</td>
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<tr>
<td>Proper Shipping Name</td>
<td>Carbon dioxide</td>
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<tr>
<td>Hazard class</td>
<td>2.2</td>
</tr>
<tr>
<td>EmS-No</td>
<td>F-C, S-V</td>
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### 15. Regulatory Information

#### 15.1. International Inventories

- **TSCA** - Complies
- **DSL/NDSL** - Complies
- **ENCS** - Complies
- **IECSC** - Complies
- **KECL** - Complies
- **PICCS** - Complies
- **AICS** - Complies

**Legend:**

- **TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- **DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- **ENCS** - Japan Existing and New Chemical Substances
- **IECSC** - China Inventory of Existing Chemical Substances
- **KECL** - Korean Existing and Evaluated Chemical Substances
- **PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- **AICS** - Australian Inventory of Chemical Substances

#### 15.2. US Federal Regulations

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

| Acute Health Hazard | No |
Chronic health hazard No
Fire Hazard No
Sudden Release of Pressure Hazard Yes
Reactive Hazard No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

15.3. US State Regulations

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Dioxide 124-38-9</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</table>

16. Other information, including date of preparation of the last revision

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and chemical properties</th>
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</thead>
<tbody>
<tr>
<td>Health Hazards</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>Simple asphyxiants</td>
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<table>
<thead>
<tr>
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<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazards</th>
<th>Personal Protection</th>
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<td>X</td>
</tr>
</tbody>
</table>

Revision date 22-Feb-2017
Revision note No information available.
Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet