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
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 and material 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.

Incompatible Materials

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</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
<td>Colorless</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>
<td>No data available</td>
<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>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Solubility in Other Solvents</td>
<td>No data available</td>
<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>
<td>No data available</td>
<td></td>
</tr>
</tbody>
</table>
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.

  \textbf{Hazardous Polymerization} \hspace{1cm} \text{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

  \textbf{Inhalation} \hspace{1cm} 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.

  \textbf{Eye Contact} \hspace{1cm} None known.

  \textbf{Skin contact} \hspace{1cm} None known.

  \textbf{Ingestion} \hspace{1cm} Not an expected route of exposure.

\textbf{Acute Toxicity}

11.2. Information on Toxicological Effects

\textbf{Symptoms} \hspace{1cm} Unconsciousness.

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

  \textbf{Skin Corrosion/Irritation} \hspace{1cm} No information available.

  \textbf{Serious eye damage/eye irritation} \hspace{1cm} No information available.

  \textbf{Sensitization} \hspace{1cm} 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
Proper Shipping Name: Carbon dioxide
Hazard class: 2.2

MEX
UN/ID no: UN1013
Description: UN1013, Carbon dioxide, 2.2
Proper Shipping Name: Carbon dioxide
Hazard class: 2.2

ICAO (air)
UN/ID no: UN1013
Description: UN1013, Carbon dioxide, 2.2
Proper Shipping Name: Carbon dioxide
Hazard class: 2.2

IATA
UN/ID no: UN1013
Description: UN1013, Carbon dioxide, 2.2
Proper Shipping Name: Carbon dioxide
Hazard class: 2.2
ERG Code: 2L

IMDG
UN/ID no: UN1013
Description: UN1013, Carbon dioxide, 2.2
Proper Shipping Name: Carbon dioxide
Hazard class: 2.2
EmS-No: F-C, S-V

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</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>124-38-9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</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>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>0</td>
<td>Simple asphyxiants</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazards</th>
<th>Personal Protection</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
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</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