Product name  Carbon Dioxide

1. Identification

1.1. Product Identifier
Product name  Carbon Dioxide

1.2. Other means of identification
Product code  009163
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.

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></td>
<td>TWA: 5000 ppm</td>
<td>-</td>
<td>TWA: 5000 ppm</td>
<td>TWA 9000 mg/m³</td>
</tr>
</tbody>
</table>
8.2. Appropriate Engineering Controls

   Engineering controls        Ensure adequate ventilation, especially in confined areas.

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

   Physical State               Compressed Gas
   Odor                         None
   Odor Threshold               No data available

   Property                     Values                      Remarks • Method
   pH                           No data available             • Method
   Melting point/freezing point No data available             • Method
   Boiling point / boiling range -1.4 °C / 28 °F                  • Method
   Flash Point                  No data available             • Method
   Evaporation Rate             No data available             • Method
   Flammability (solid, gas)    No data available             • Method
   Flammability limit in air    No data available             • Method
   Upper flammability limit:    No data available             • Method
   Lower flammability limit:    No data available             • Method
   Vapor Pressure               No data available             • Method
   Vapor Density                No data available             • Method
   Specific gravity             No data available             • Method
   Water Solubility             No data available             • Method
   Solubility in Other Solvents No data available             • Method
   Partition coefficient        No data available             • Method
   Autoignition Temperature     No data available             • Method
   Decomposition Temperature    No data available             • Method
   Kinematic viscosity          No data available             • Method
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
Proper Shipping Name
Carbon dioxide
Hazard class
2.2
Product code 009163 / Product name Carbon Dioxide / PAGE 7 / 8

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 124-38-9</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

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

NFPA

Health Hazards: 1
Flammability: 0
Instability: 0

HMIS

Health Hazards: 1
Flammability: 0
Physical Hazards: 3
Person Protection: X

Revision date: 13-Jun-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