SECTION 1: IDENTIFICATION

1.1. Product Identifier

- **Product Form:** Substance
- **Product Name:** Carbon Dioxide
- **Synonyms:** CO₂

1.2. Intended Use of the Product

No use is specified.

1.3. Name, Address, and Telephone of the Responsible Party

**Customer**

Hess Tower
1501 McKinney
Houston, TX 77010
T:(713) 496-4000

When calling the main operator ask for the EHS Safety Department. All Hess SDSs are also available via the Hess.com website.

1.4. Emergency Telephone Number

**Emergency Number:** (800) 424-9300 CHEMTREC (24 hours)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

**GHS-US/CA Classification**

- Simple Asphy
- Press. Gas (Comp.) H280

Full text of hazard classes and H-statements: see Section 16.

2.2. Label Elements

**GHS-US/CA Labeling**

- **Hazard Pictograms (GHS-US/CA):**

  ![GHS Pictogram]

- **Signal Word (GHS-US/CA):** Warning
- **Hazard Statements (GHS-US/CA):**
  - H280 - Contains gas under pressure; may explode if heated.
  - May displace oxygen and cause rapid suffocation.

- **Precautionary Statements (GHS-US/CA):**
  - P410+P403 - Protect from sunlight. Store in a well-ventilated place.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions. Contact with gas escaping the container can cause frostbite.

2.4. Unknown Acute Toxicity (GHS-US/CA)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

- **Name:** Carbon Dioxide

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Identifier</th>
<th>%</th>
<th>GHS Ingredient Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon dioxide</td>
<td>(CAS-No.) 124-38-9</td>
<td>100</td>
<td>Simple Asphy Press. Gas (Comp.), H280</td>
</tr>
</tbody>
</table>

Full text of H-phrases: see Section 16.
SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). If frostbite or freezing occurs, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do not use hot water. Do not rub affected area. Get immediate medical attention.

Inhalation: Obtain medical attention if breathing difficulty persists. First, take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate respiratory protective equipment, use the buddy system), then remove the exposed person to fresh air. Keep at rest in a position comfortable for breathing.

Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists. Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Contact with gas escaping the container can cause frostbite. Asphyxia by lack of oxygen: risk of death.

Inhalation: When inhaled in elevated concentrations, carbon dioxide may act to produce mild central nervous system effects, stimulation of respiration, and asphyxiation depending on the concentration present and the duration of exposure. An increase in carbon dioxide concentration will increase breathing rate. In high concentrations it will displace oxygen from the breathing atmosphere. Signs of asphyxiation will be noticed when oxygen is reduced to below 16%, and may occur in several stages. Symptoms may include rapid breathing and pulse rate, headache, dizziness, visual disturbances, mental confusion, incoordination, mood changes, muscular weakness, tremors, cyanosis, narcosis and numbness of the extremities. Unconsciousness leading to central nervous system injury and possibly death will occur when the atmospheric oxygen concentration is reduced to about ≤8%.

Skin Contact: Contact with gas escaping the container can cause frostbite and freeze burns.

Eye Contact: Contact with gas escaping the container can cause frostbite, freeze burns, and permanent eye damage.

Ingestion: Not considered a potential route of exposure, but contact with gas escaping the container can cause freeze burns and frostbite.

Chronic Symptoms: None expected under normal conditions of use.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray, dry chemical, foam, carbon dioxide.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures.

Explosion Hazard: Container may explode in heat of fire.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. Fight fire remotely due to the risk of explosion.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon monoxide and oxygen when heated above 3092°F (1700°C).

Reference to Other Sections

Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not get in eyes, on skin, or on clothing. Do not breathe gas.
6.1.1. For Non-Emergency Personnel
Protective Equipment: Use appropriate personal protective equipment (PPE).

6.1.2. For Emergency Personnel
Protective Equipment: Equip cleanup crew with proper protection.
Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Evacuate unnecessary personnel, isolate, and ventilate area.

6.2. Environmental Precautions
Prevent entry to sewers and public waters.

6.3. Methods and Materials for Containment and Cleaning Up
For Containment: Stop leak, if possible without risk. As an immediate precautionary measure, isolate spill or leak area in all directions.
Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill. Stop the source of the release, if safe to do so. Consider the use of water spray to disperse vapors. Isolate the area until gas has dispersed. Ventilate and gas test area before entering.

6.4. Reference to Other Sections
See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling
Additional Hazards When Processed: Do not pressurize, cut, or weld containers. Ruptured cylinders may rocket. Asphyxiating gas at high concentrations.
Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Do not breathe gas.
Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities
Technical Measures: Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.
Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.
Incompatible Materials: Strong acids, strong bases, strong oxidizers, reactive metals (such as aluminum, magnesium), hydrides.

7.3. Specific End Use(s)
No use is specified.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters
For substances listed in Section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), or Canadian provincial governments.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Control Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon dioxide (124-38-9)</td>
<td>USA ACGIH ACGIH TWA (ppm)</td>
<td>5000 ppm</td>
</tr>
<tr>
<td></td>
<td>USA ACGIH ACGIH STEL (ppm)</td>
<td>30000 ppm</td>
</tr>
<tr>
<td></td>
<td>USA OSHA OSHA PEL (TWA) (mg/m³)</td>
<td>9000 mg/m³</td>
</tr>
<tr>
<td></td>
<td>USA OSHA OSHA PEL (TWA) (ppm)</td>
<td>5000 ppm</td>
</tr>
<tr>
<td></td>
<td>USA NIOSH NIOSH REL (TWA) (mg/m³)</td>
<td>9000 mg/m³</td>
</tr>
<tr>
<td></td>
<td>USA NIOSH NIOSH REL (TWA) (ppm)</td>
<td>5000 ppm</td>
</tr>
<tr>
<td></td>
<td>USA NIOSH NIOSH REL (STEL) (mg/m³)</td>
<td>54000 mg/m³</td>
</tr>
<tr>
<td></td>
<td>USA NIOSH NIOSH REL (STEL) (ppm)</td>
<td>30000 ppm</td>
</tr>
<tr>
<td></td>
<td>USA IDLH US IDLH (ppm)</td>
<td>40000 ppm</td>
</tr>
<tr>
<td>Alberta</td>
<td>OEL STEL (mg/m³)</td>
<td>54000 mg/m³</td>
</tr>
<tr>
<td>Alberta</td>
<td>OEL STEL (ppm)</td>
<td>30000 ppm</td>
</tr>
<tr>
<td>Alberta</td>
<td>OEL TWA (mg/m³)</td>
<td>9000 mg/m³</td>
</tr>
<tr>
<td>Alberta</td>
<td>OEL TWA (ppm)</td>
<td>5000 ppm</td>
</tr>
<tr>
<td>British Columbia</td>
<td>OEL STEL (ppm)</td>
<td>15000 ppm</td>
</tr>
</tbody>
</table>
8.2. Exposure Controls

**Appropriate Engineering Controls:** Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Use explosion-proof equipment. Oxygen detectors should be used when asphyxiating gases may be released.


**Materials for Protective Clothing:** Chemically resistant materials and fabrics.

**Hand Protection:** Wear protective gloves. If material is cold, wear thermally resistant protective gloves.

**Eye and Face Protection:** Chemical safety goggles.

**Skin and Body Protection:** Wear suitable protective clothing.

**Respiratory Protection:** Use a NIOSH-approved positive pressure, supplied air respiratory with escape bottle or self-contained breathing apparatus (SCBA) for gas concentrations above occupational exposure limits, for potential for uncontrolled release, if exposure levels are not known, or in an oxygen-deficient atmosphere.


**Thermal Hazard Protection:** Wear thermally resistant protective clothing.

**Other Information:** When using, do not eat, drink or smoke.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1. Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Gas</td>
</tr>
<tr>
<td>Appearance</td>
<td>Colorless, Slightly Acidic Gas</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting Point</td>
<td>-57 °C (-70.6 °F)</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>-79 °C (-110.2 °F)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Lower Flammable Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Upper Flammable Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>856 mm Hg @70°F (21°C)</td>
</tr>
<tr>
<td>Relative Vapor Density at 20°C</td>
<td>1.53 (air = 1)</td>
</tr>
<tr>
<td>Relative Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Heavier than air</td>
</tr>
</tbody>
</table>

---

**Centre de la santé du travail**

880-833-3257

www.cstbz.org
Solubility: Very soluble
Partition Coefficient: N-Octanol/Water: Not available
Viscosity: Not available
Explosive Properties: Contains gas under pressure; may explode if heated

SECTION 10: STABILITY AND REACTIVITY
10.1. Reactivity: Hazardous reactions will not occur under normal conditions.
10.2. Chemical Stability: Contains gas under pressure; may explode if heated.
10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
10.4. Conditions to Avoid: Direct sunlight, extremely high or low temperatures, open flames, sources of ignition and incompatible materials.
10.5. Incompatible Materials: Strong acids, strong bases, strong oxidizers, reactive metals (such as aluminum, magnesium), hydrides.
10.6. Hazardous Decomposition Products: None expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION
11.1. Information on Toxicological Effects - Product
   Acute Toxicity (Oral): Not classified
   Acute Toxicity (Dermal): Not classified
   Acute Toxicity (Inhalation): Not classified
   LD50 and LC50 Data: Not available
   Skin Corrosion/Irritation: Not classified
   Eye Damage/Irritation: Not classified
   Respiratory or Skin Sensitization: Not classified
   Germ Cell Mutagenicity: Not classified
   Carcinogenicity: Not classified
   Specific Target Organ Toxicity (Repeated Exposure): Not classified
   Reproductive Toxicity: Not classified
   Specific Target Organ Toxicity (Single Exposure): Not classified
   Aspiration Hazard: Not classified
   Symptoms/Injuries After Inhalation: When inhaled in elevated concentrations, carbon dioxide may act to produce mild central nervous system effects, stimulation of respiration, and asphyxiation depending on the concentration present and the duration of exposure. An increase in carbon dioxide concentration will increase breathing rate. In high concentrations it will displace oxygen from the breathing atmosphere. Signs of asphyxiation will be noticed when oxygen is reduced to below 16%, and may occur in several stages. Symptoms may include rapid breathing and pulse rate, headache, dizziness, visual disturbances, mental confusion, incoordination, mood changes, muscular weakness, tremors, cyanosis, narcosis and numbness of the extremities. Unconsciousness leading to central nervous system injury and possibly death will occur when the atmospheric oxygen concentration is reduced to about ≤8%.
   Symptoms/Injuries After Skin Contact: Contact with gas escaping the container can cause frostbite and freeze burns.
   Symptoms/Injuries After Eye Contact: Contact with gas escaping the container can cause frostbite, freeze burns, and permanent eye damage.
   Symptoms/Injuries After Ingestion: Not considered a potential route of exposure, but contact with gas escaping the container can cause freeze burns and frostbite.
   Chronic Symptoms: None expected under normal conditions of use.
11.2. Information on Toxicological Effects - Ingredient(s)
   LD50 and LC50 Data: Not available

SECTION 12: ECOLOGICAL INFORMATION
12.1. Toxicity
   Ecology - General: Not classified.
12.2. Persistence and Degradability
   Carbon Dioxide
   Persistence and Degradability: Not established.
12.3. Bioaccumulative Potential

<table>
<thead>
<tr>
<th>Carbon Dioxide</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative Potential</td>
<td>Not established.</td>
</tr>
<tr>
<td>Carbon dioxide (124-38-9)</td>
<td></td>
</tr>
<tr>
<td>BCF Fish 1</td>
<td>(no bioaccumulation)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>0.83</td>
</tr>
</tbody>
</table>

12.4. Mobility in Soil

Not available

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions. Empty gas cylinders should be returned to the vendor for recycling or refilling. Do not puncture or incinerate container.

Ecology - Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>CARBON DIOXIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>2.2</td>
</tr>
<tr>
<td>Identification Number</td>
<td>UN1013</td>
</tr>
<tr>
<td>Label Codes</td>
<td>2.2</td>
</tr>
<tr>
<td>ERG Number</td>
<td>120</td>
</tr>
</tbody>
</table>

14.2. In Accordance with IMDG

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>CARBON DIOXIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>2.2</td>
</tr>
<tr>
<td>Identification Number</td>
<td>UN1013</td>
</tr>
<tr>
<td>Label Codes</td>
<td>2.2</td>
</tr>
<tr>
<td>EmS-No. (Fire)</td>
<td>F-C</td>
</tr>
<tr>
<td>EmS-No. (Spillage)</td>
<td>S-V</td>
</tr>
</tbody>
</table>

14.3. In Accordance with IATA

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>CARBON DIOXIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification Number</td>
<td>2.2</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>UN1013</td>
</tr>
<tr>
<td>Label Codes</td>
<td>2.2</td>
</tr>
<tr>
<td>ERG Code (IATA)</td>
<td>2L</td>
</tr>
</tbody>
</table>

14.4. In Accordance with TDG

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>CARBON DIOXIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>2.2</td>
</tr>
<tr>
<td>Identification Number</td>
<td>UN1013</td>
</tr>
<tr>
<td>Label Codes</td>
<td>2.2</td>
</tr>
</tbody>
</table>

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

<table>
<thead>
<tr>
<th>Carbon Dioxide</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SARA Section 311/312 Hazard Classes</td>
<td>Sudden release of pressure hazard</td>
</tr>
<tr>
<td></td>
<td>Immediate (acute) health hazard</td>
</tr>
<tr>
<td>Carbon dioxide (124-38-9)</td>
<td></td>
</tr>
</tbody>
</table>
Carbon Dioxide
Safety Data Sheet SDS No: 15009
According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. US State Regulations

Carbon dioxide (124-38-9)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

15.3. Canadian Regulations

Carbon dioxide (124-38-9)
 Listed on the Canadian DSL (Domestic Substances List)

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest Revision: 10/30/2018

Other Information:
This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada’s Hazardous Products Regulations (HPR) SOR/2015-17.

GHS Full Text Phrases:

- H280: Contains gas under pressure; may explode if heated
- Press. Gas (Comp.): Gases under pressure Compressed gas
- Simple Asphy: Simple Asphyxiant
- H280: Contains gas under pressure; may explode if heated

NFPA Health Hazard: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
NFPA Fire Hazard: 0 - Materials that will not burn under typical dire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
NFPA Reactivity Hazard: 0 - Material that in themselves are normally stable, even under fire conditions.
NFPA Specific Hazards: SA - This denotes gases which are simple asphyxiants.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

NA GHS SDS 2015 (Can, US)