



# SAFETY DATA SHEET

Revision date 20-Nov-2020

Version 2.03

Page 1 / 8

## Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

**Product Name** Carbon Dioxide, Dry Ice  
**Product Code(s)** PF00096  
**Synonyms** Dry ice (nuggets, pellets, or blocks)  
**Trade Name:** Not established  
**Chemical Family:** Not determined  
**carbon dioxide (compressed)**  
**CAS No** 124-38-9

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Refrigerant Packaging

### 1.3. Details of the supplier of the safety data sheet

Pfizer Inc  
235 East 42nd Street  
New York, New York 10017  
1-800-879-3477

Pfizer Ltd  
Ramsgate Road  
Sandwich, Kent  
CT13 9NJ  
United Kingdom  
+00 44 (0)1304 616161

### 1.4. Emergency telephone number

**Emergency Telephone** Chemtrec 1-800-424-9300 International Chemtrec (24 hours):+1-703-527-3887  
**E-mail address** pfizer-MSDS@pfizer.com

## Section 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

GHS - Classification: Not classified as hazardous

### OSHA Classification

**Health Hazard:** Simple Asphyxiant

### 2.2. Label elements

**Signal word** Warning

**Hazard statements** May displace oxygen and cause rapid suffocation

**Precautionary Statements** P282 - Wear cold insulating gloves/face shield/eye protection  
P336 + P315 - Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention  
P403 - Store in a well-ventilated place

# SAFETY DATA SHEET

Product Name Carbon Dioxide, Dry Ice  
Revision date 20-Nov-2020

Page 2 / 8  
Version 2.03

**Supplemental Hazard** Contact with dry ice may cause cold burns or frostbite.

## 2.3. Other hazards

### Other hazards

An Occupational Exposure Value has been established for this substance ( see Section 8 ).

### Note:

This document has been prepared in accordance with standards for workplace safety, which require the inclusion of all known hazards of the product or its ingredients regardless of the potential risk. The precautionary statements and warnings included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

## **Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.1 Substances

Hazardous

| Chemical name               | EC No     | CAS No   | Weight-% | Classification according to Regulation (EC) No. 1272/2008 [CLP] | REACH Registration Number |
|-----------------------------|-----------|----------|----------|---|---------------------------|
| carbon dioxide (compressed) | 204-696-9 | 124-38-9 | 100      | Not Listed  |                           |

**Full text of H- and EUH-phrases: see section 16**

### Additional information

Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety.

## **Section 4: FIRST AID MEASURES**

### 4.1. Description of first aid measures

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | Remove to fresh air. Seek immediate medical attention/advice.  |
| <b>Eye contact</b>  | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.   |
| <b>Skin contact</b> | Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.  |
| <b>Ingestion</b>    | Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately. |

### 4.2. Most important symptoms and effects, both acute and delayed

**Most important symptoms and effects** For information on potential signs and symptoms of exposure, See Section 2 - Hazards Identification and/or Section 11 - Toxicological Information.

### 4.3. Indication of any immediate medical attention and special treatment needed

**Note to physicians** None.

## **Section 5: FIRE-FIGHTING MEASURES**

### 5.1. Extinguishing media

# SAFETY DATA SHEET

Product Name Carbon Dioxide, Dry Ice  
Revision date 20-Nov-2020

Page 3 / 8  
Version 2.03

**Suitable Extinguishing Media** Dry chemical, CO2, alcohol-resistant foam or water spray.

## 5.2. Special hazards arising from the substance or mixture

**Specific hazards arising from the chemical** Dry ice sublimates to carbon dioxide vapor. Vapor may displace oxygen and cause rapid suffocation.

**Hazardous combustion products** Formation of toxic gases is possible during heating or fire. Toxic gases including carbon monoxide can be expected in fires of this material. May include oxides of carbon.

## 5.3. Advice for firefighters

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## **Section 6: ACCIDENTAL RELEASE MEASURES**

### 6.1. Personal precautions, protective equipment and emergency procedures

**Personal precautions** Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure.

**For emergency responders** Use personal protection recommended in Section 8.

### 6.2. Environmental precautions

**Environmental precautions** Refer to protective measures listed in Sections 7 and 8.

### 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** Contain the source of the spill or leak. Collect spilled material by a method that controls dust generation. Avoid use of a filtered vacuum to clean spills of dry solids. Clean spill area thoroughly.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

### 6.4. Reference to other sections

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## **Section 7: HANDLING AND STORAGE**

### 7.1. Precautions for safe handling

#### **Advice on safe handling**

Restrict access to work area. Avoid open handling. Minimize generating airborne mists and vapors. Use process containment, local exhaust ventilation or perform work under fume hood/fume cupboard. Avoid inhalation and contact with skin, eye, and clothing.

When handling, use appropriate personal protective equipment (see Section 8). Wash hands and any exposed skin after removal of PPE. Releases to the environment should be avoided. NEVER HANDLE SOLID CARBON DIOXIDE WITH YOUR BARE HANDS. USE GLOVES OR DRY ICE TONGS OR A DRY SHOVEL OR SCOOP.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage Conditions** Store and use with adequate ventilation. Do not store in tight containers or confined spaces. Storage areas should be clean and dry. Store at -78.5 °C in properly labeled containers.

### 7.3. Specific end use(s)

**Specific use(s)** Refrigerant Packaging.

# SAFETY DATA SHEET

Product Name Carbon Dioxide, Dry Ice  
Revision date 20-Nov-2020

Page 4 / 8  
Version 2.03

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure Limits

Refer to available public information for specific member state Occupational Exposure Limits.

#### carbon dioxide (compressed)

|                |  |
|----------------|--|
| ACGIH TLV      | STEL: 30000 ppm  |
| Austria        | 5000 ppm<br>5000 ppm<br>9000 mg/m <sup>3</sup><br>STEL 10000 ppm<br>STEL 18000 mg/m <sup>3</sup>   |
| Bulgaria       | 5000 ppm<br>9000 mg/m <sup>3</sup>   |
| Czech Republic | 9000 mg/m <sup>3</sup><br>Ceiling: 45000 mg/m <sup>3</sup>   |
| Denmark        | 5000 ppm<br>9000 mg/m <sup>3</sup>   |
| Estonia        | 5000 ppm<br>9000 mg/m <sup>3</sup>   |
| Finland        | 5000 ppm<br>9100 mg/m <sup>3</sup>   |
| France         | 9000 mg/m <sup>3</sup>   |
| Germany        | 5000 ppm<br>9100 mg/m <sup>3</sup><br>Ceiling / Peak: 10000 ppm<br>Ceiling / Peak: 18200 mg/m <sup>3</sup>   |
| Germany        | 5000 ppm<br>9100 mg/m <sup>3</sup>   |
| Hungary        | 9000 mg/m <sup>3</sup>   |
| Ireland        | 5000 ppm<br>9000 mg/m <sup>3</sup><br>STEL: 15000 ppm<br>STEL: 27000 mg/m <sup>3</sup>   |
| Italy          | 5000 ppm<br>9000 mg/m <sup>3</sup>   |
| Latvia         | 5000 ppm<br>9000 mg/m <sup>3</sup>   |
| Netherlands    | 9000 mg/m <sup>3</sup>   |
| Poland         | STEL: 27000 mg/m <sup>3</sup><br>9000 mg/m <sup>3</sup>  |
| Romania        | 5000 ppm<br>9000 mg/m <sup>3</sup>   |
| Russia         | TWA: 9000 mg/m <sup>3</sup><br>STEL: 27000 mg/m <sup>3</sup>   |
| Slovakia       | 5000 ppm<br>9000 mg/m <sup>3</sup>   |
| Spain          | 5000 ppm<br>9150 mg/m <sup>3</sup>   |
| Switzerland    | 5000 ppm<br>9000 mg/m <sup>3</sup>   |
| OSHA PEL       | 5000 ppm<br>9000 mg/m <sup>3</sup><br>(vacated) TWA: 10000 ppm<br>(vacated) TWA: 18000 mg/m <sup>3</sup><br>(vacated) STEL: 30000 ppm<br>(vacated) STEL: 54000 mg/m <sup>3</sup> |

# SAFETY DATA SHEET

Product Name Carbon Dioxide, Dry Ice  
Revision date 20-Nov-2020

Page 5 / 8  
Version 2.03

United Kingdom

TWA: 5000 ppm  
TWA: 9150 mg/m<sup>3</sup>  
STEL: 15000 ppm  
STEL: 27400 mg/m<sup>3</sup>

## 8.2. Exposure controls

|  |   |
|--|---|
| <b>Engineering controls</b>            | Engineering controls should be used as the primary means to control exposures.  |
| <b>Environmental exposure controls</b> | No information available.   |
| <b>Personal protective equipment</b>   | Contact your safety and health professional or safety equipment supplier for assistance in selecting the correct protective clothing/equipment based on an assessment of the workplace conditions, other chemicals used or present in the workplace and specific operational processes. Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE). |
| <b>Eye/face protection</b>             | Wear safety glasses as minimum protection. (Safety glasses must meet the standards in accordance with EN166, ANSI Z87.1 or international equivalent.).  |
| <b>Hand protection</b>                 | Wear insulated gloves to prevent skin contact. (Protective gloves must meet the standards in accordance with EN511 or international equivalent.).   |
| <b>Skin and body protection</b>        | Use protective clothing (uniforms, lab coats, disposable coveralls, etc.) in both production and laboratory areas. (Protective clothing must meet the standards in accordance with EN13982, ANSI 103 or international equivalent.).   |
| <b>Respiratory protection</b>          | Whenever excessive air contamination (dust, mist, vapor) is generated, respiratory protection, with appropriate protection factors, should be used to minimize exposure. (e.g. particulate respirator with a half mask, P3 filter). (Respirators must meet the standards in accordance with EN140, EN143, ASTM F2704-10 or international equivalent.).  |
| <b>General hygiene considerations</b>  | Handle in accordance with good industrial hygiene and safety practice.  |

## **Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

### 9.1. Information on basic physical and chemical properties

|                                       |                    |
|---------------------------------------|--------------------|
| <b>Physical state</b>                 | Solid              |
| <b>Color</b>                          | White              |
| <b>Molecular formula</b>              | CO <sub>2</sub>    |
| <b>Molecular weight</b>               | 44                 |
| <b>Odor</b>                           | No data available. |
| <b>Odor threshold</b>                 | No data available  |
| <b>Property</b>                       | <b>Values</b>      |
| <b>pH</b>                             |                    |
| <b>Melting point / freezing point</b> | -56.6              |
| <b>Boiling point / boiling range</b>  | -78.46             |
| <b>Flash point</b>                    | No data available  |
| <b>Evaporation rate</b>               | No data available  |
| <b>Flammability (solid, gas)</b>      | No data available  |
| <b>Flammability Limit in Air</b>      |                    |
| <b>Upper flammability limit:</b>      | No data available  |
| <b>Lower flammability limit:</b>      | No data available  |
| <b>Vapor pressure</b>                 | 5.73               |
| <b>Vapor density</b>                  | No data available  |

# SAFETY DATA SHEET

Product Name Carbon Dioxide, Dry Ice  
Revision date 20-Nov-2020

Page 6 / 8  
Version 2.03

|                                  |                   |
|----------------------------------|-------------------|
| <b>Relative density</b>          | No data available |
| <b>Water solubility</b>          | No data available |
| <b>Solubility(ies)</b>           | No data available |
| <b>Autoignition temperature</b>  | No data available |
| <b>Decomposition temperature</b> | No data available |
| <b>Kinematic viscosity</b>       | No data available |
| <b>Dynamic viscosity</b>         | No data available |
| <b>Explosive properties</b>      | No data available |
| <b>Oxidizing properties</b>      | No data available |

## 9.2. Other information

|                       |                   |
|-----------------------|-------------------|
| <b>Liquid Density</b> | No data available |
| <b>Bulk density</b>   | No data available |

## **Section 10: STABILITY AND REACTIVITY**

### 10.1. Reactivity

**Reactivity** No data available.

### 10.2. Chemical stability

**Stability** Stable under normal conditions.

### Explosion data

**Sensitivity to Mechanical Impact** No data available.

**Sensitivity to Static Discharge** No data available.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** No information available.

### 10.4. Conditions to avoid

**Conditions to avoid** Dry ice sublimates to carbon dioxide vapor. Vapor may displace oxygen and cause rapid suffocation.

### 10.5. Incompatible materials

**Incompatible materials** As a precautionary measure, keep away from strong oxidizers.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** No data available.

## **Section 11: TOXICOLOGICAL INFORMATION**

### 11.1. Information on toxicological effects

#### **General Information:**

##### **Short term**

Toxicological properties have not been thoroughly investigated.

Dry ice sublimates to carbon dioxide vapor. Vapor may displace oxygen and cause rapid suffocation. Contact with dry ice may cause cold burns or frostbite.

##### **Carcinogenicity**

Not listed as a carcinogen by IARC, NTP or US OSHA.

## **Section 12: ECOLOGICAL INFORMATION**

# SAFETY DATA SHEET

Product Name Carbon Dioxide, Dry Ice  
Revision date 20-Nov-2020

Page 7 / 8  
Version 2.03

**Environmental Overview:** Releases to the environment should be avoided. Environmental properties have not been investigated.

## 12.1. Toxicity

**No information available**

## 12.2. Persistence and degradability

**Persistence and degradability** No information available.

## 12.3. Bioaccumulative potential

**Bioaccumulation** No information available.

## 12.4. Mobility in soil

**Mobility in soil** No information available.

## 12.5. Results of PBT and vPvB assessment

**PBT and vPvB assessment** No information available.

## 12.6. Other adverse effects

**Other adverse effects** No information available.

## **Section 13: DISPOSAL CONSIDERATIONS**

### 13.1. Waste treatment methods

Dispose of waste in accordance with all applicable laws and regulations. Member State specific and Community specific provisions must be considered. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater.

## **Section 14: TRANSPORT INFORMATION**

The following refers to all modes of transportation unless specified below.

**UN proper shipping name:** Not regulated

### IMDG

|                                |                       |
|--------------------------------|-----------------------|
| <b>UN-No</b>                   | UN1845                |
| <b>UN proper shipping name</b> | Carbon Dioxide, Solid |
| <b>Hazard Class</b>            | 9                     |

### IATA

|              |        |
|--------------|--------|
| <b>UN-No</b> | UN1845 |
|--------------|--------|

# SAFETY DATA SHEET

Product Name Carbon Dioxide, Dry Ice  
Revision date 20-Nov-2020

Page 8 / 8  
Version 2.03

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**UN proper shipping name** Carbon Dioxide, Solid  
**Hazard Class** 9

## Section 15: REGULATORY INFORMATION

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

carbon dioxide (compressed)

|   |            |
|---|------------|
| <b>CERCLA/SARA Section 313 de minimus %</b> | Not Listed |
| <b>California Proposition 65</b>            | Not Listed |
| <b>TSCA</b>                                 | Present    |
| <b>EINECS</b>                               | 204-696-9  |
| <b>AICS</b>                                 | Present    |

### 15.2. Chemical safety assessment

**Chemical Safety Report** No information available

## Section 16: OTHER INFORMATION

### Key or legend to abbreviations and acronyms used in the safety data sheet

**Data Sources:** Publicly available toxicity information. Commercial vendor SDS.

**Reason for revision** Updated Section 8 - Exposure Controls / Personal Protection.

**Revision date** 20-Nov-2020

**Prepared By** Product Stewardship Hazard Communication  
Pfizer Global Environment, Health, and Safety Operations

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