



# SAFETY DATA SHEET

Revision date 05-Dec-2021

Version 3

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## 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  
66 Hudson Boulevard East  
New York, New York 10001  
1-800-879-3477

Pfizer Ireland Pharmaceuticals  
OSG Building  
Ringaskiddy, Co. Cork.  
Ireland  
+353 21 4378701

**E-mail address** pfizer-MSDS@pfizer.com

### 1.4. Emergency telephone number

**Emergency Telephone** Chemtrec 1-800-424-9300 International Chemtrec (24 hours):+1-703-527-3887

## 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

**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 ).

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**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	Weight-%	REACH Registration Number	EC No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
carbon dioxide (compressed) (CAS #: 124-38-9)	100		204-696-9	Not classified as hazardous	Not Listed	No data available	No data available

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

Acute Toxicity Estimate  
No information available

**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.

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## Section 5: FIRE-FIGHTING MEASURES

### 5.1. Extinguishing media

**Suitable Extinguishing Media** Dry chemical, CO<sub>2</sub>, 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** Avoid use of a filtered vacuum to clean spills of dry solids. Contain the source of the spill or leak. Clean spill area thoroughly. Collect spilled material by a method that controls dust generation.

**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.

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## 7.3. Specific end use(s)

Specific use(s) Refrigerant Packaging.

## 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 5000 ppm
Austria	5000 ppm 9000 mg/m <sup>3</sup> STEL 10000 ppm STEL 18000 mg/m <sup>3</sup>
Bulgaria	5000 ppm 9000 mg/m <sup>3</sup>
Czech Republic	9000 mg/m <sup>3</sup> Ceiling: 45000 mg/m <sup>3</sup>
Denmark	5000 ppm 9000 mg/m <sup>3</sup>
Estonia	5000 ppm 9000 mg/m <sup>3</sup>
European Union	TWA: 5000 ppm TWA: 9000 mg/m <sup>3</sup>
Finland	5000 ppm 9100 mg/m <sup>3</sup>
France	9000 mg/m <sup>3</sup>
Germany	5000 ppm 9100 mg/m <sup>3</sup> Ceiling / Peak: 10000 ppm Ceiling / Peak: 18200 mg/m <sup>3</sup>
Germany	5000 ppm 9100 mg/m <sup>3</sup>
Hungary	9000 mg/m <sup>3</sup>
Ireland	5000 ppm 9000 mg/m <sup>3</sup> STEL: 15000 ppm STEL: 27000 mg/m <sup>3</sup>
Italy	5000 ppm 9000 mg/m <sup>3</sup>
Latvia	5000 ppm 9000 mg/m <sup>3</sup>
Netherlands	9000 mg/m <sup>3</sup>
Poland	STEL: 27000 mg/m <sup>3</sup> 9000 mg/m <sup>3</sup>
Romania	5000 ppm 9000 mg/m <sup>3</sup>
Russia	TWA: 9000 mg/m <sup>3</sup> MAC: 27000 mg/m <sup>3</sup>
Slovakia	5000 ppm 9000 mg/m <sup>3</sup>
Spain	5000 ppm 9150 mg/m <sup>3</sup>
Switzerland	5000 ppm 9000 mg/m <sup>3</sup>
OSHA PEL	5000 ppm

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United Kingdom

9000 mg/m<sup>3</sup>  
(vacated) TWA: 10000 ppm  
(vacated) TWA: 18000 mg/m<sup>3</sup>  
(vacated) STEL: 30000 ppm  
(vacated) STEL: 54000 mg/m<sup>3</sup>  
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 any 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>Odor</b>	No information available.
<b>Odor threshold</b>	No information available
<b>Molecular formula</b>	CO <sub>2</sub>
<b>Molecular weight</b>	44
<b>Property</b>	<b>Values</b>
<b>pH</b>	No data available
<b>Melting point / freezing point</b>	-56.6
<b>Boiling point / boiling range</b>	-78.46
<b>Flash point</b>	No information 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

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<b>Lower flammability limit:</b>	No data available
<b>Vapor pressure</b>	5.73
<b>Vapor density</b>	No data available
<b>Relative density</b>	No data available
<b>Water solubility</b>	No data available
<b>Solubility(ies)</b>	No data available
<b>Partition coefficient</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>Particle characteristics</b>	
<b>Particle Size</b>	No information available
<b>Particle Size Distribution</b>	No information available
<b>Explosive properties</b>	No information available

## 9.2. Other information

No information available

### 9.2.1. Information with regard to physical hazard classes

No information available

### 9.2.2. Other safety characteristics

No information 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 hazard classes as defined in Regulation (EC) No 1272/2008

#### **General Information:**

Toxicological properties have not been thoroughly investigated.

#### **Short term**

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.

#### **Acute toxicity**

Based on available data, the classification criteria are not met.

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<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met.
<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met.
<b>Respiratory or skin sensitization</b>	Based on available data, the classification criteria are not met.
<b>STOT - single exposure</b>	Based on available data, the classification criteria are not met.
<b>STOT - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.

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

## 11.2. Information on other hazards

### 11.2.1. Endocrine disrupting properties

**Endocrine disrupting properties** No information available.

### 11.2.2. Other information

**Other adverse effects** No information available.

## **Section 12: ECOLOGICAL INFORMATION**

**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. Endocrine disrupting properties

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**Endocrine disrupting properties** No information available.

## **12.7. 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 wastewater 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.

<b>UN number:</b>	Not applicable
<b>UN proper shipping name:</b>	Not regulated
<b>Transport hazard class(es):</b>	Not applicable
<b>Packing group:</b>	Not applicable
<b>Environmental Hazard(s):</b>	Not applicable

**Special precautions for user:** Not applicable

### **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
<b>UN proper shipping name</b>	Carbon Dioxide, Solid
<b>Hazard Class</b>	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

### **European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work



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## Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

## Persistent Organic Pollutants

Not applicable

## Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

## Plant protection products directive (91/414/EEC)

Chemical name	Plant protection products directive (91/414/EEC)
carbon dioxide (compressed) - 124-38-9	Plant protection agent

## EU - Biocides

Chemical name	EU - Biocides
carbon dioxide (compressed) - 124-38-9	Product-type 14: Rodenticides Product-type 18: Insecticides, acaricides and products to control other arthropods

## Legend:

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

## 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 1 - Identification of the Substance/Preparation and the Company/Undertaking. Updated Section 2 - Hazard Identification. Updated Section 3 - Composition / Information on Ingredients. Updated Section 12 - Ecological Information. Updated Section 15 - Regulatory Information.

**Revision date** 05-Dec-2021

**Prepared By** Pfizer Global Environment, Health, and Safety

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