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

#### 1.1. Product identifier

Product Name Cefepime Hydrochloride Injection, Powder, for Solution (Hospira, Inc.)

Product Code(s) PZ03078
Trade Name: Not applicable

Chemical Family: Cephalosporin antibiotic

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

Recommended Use Pharmaceutical product used as antibiotic agent

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

Hospira, A Pfizer Company 275 North Field Drive

Lake Forest, Illinois 60045

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

Respiratory sensitizationCategory 1Skin sensitizationCategory 1

**OSHA Classification** 

Physical Hazard Combustible Dust

Hazards not otherwise classified (HNOC)

Not applicable

Hazards classified under paragraph (d)(1)(ii) of 1910.1200

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Not applicable 2.2. Label elements



Signal word **Hazard statements**  Danger

H317 - May cause an allergic skin reaction

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

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OSHA - May form combustible dust concentrations in air

Precautionary Statements - EU (§28, P261 - Avoid breathing dust/fume/gas/mist/vapors/spray 1272/2008)

P272 - Contaminated work clothing should not be allowed out of the workplace

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P284 - Wear respiratory protection

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position

comfortable for breathing

P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or

doctor/physician

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention

P362 - Take off contaminated clothing and wash before reuse

P501 - Dispose of contents/container in accordance with local, regional, national, and

international regulations as applicable

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

2.3. Other hazards

Other hazards An Occupational Exposure Value has been established for one or more of the ingredients

(see Section 8).

PBT & vPvB The product does not contain any substance(s) classified as PBT or vPvB.

This product does not contain any known or suspected endocrine disruptors. **Endocrine Disruptor Information** 

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	EC No (EU	Classification	Specific	M-Factor	M-Factor
1			registration	Index No)	according to	concentration		(long-term)
1			number		Regulation	limit (SCL)		
					(EC) No.			

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				1272/2008 [CLP]			
Cefepime Hydrochloride Hydrate (CAS #: 123171-59-5)	62		Not Listed	Resp Sens. 1 (H334) Skin Sens. 1 (H317)	Not classified	No data available	No data available
NonHazardous							
Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Arginine (CAS #: 74-79-3)	38		200-811-1	Not classified	Not classified	No data available	No data available

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

Acute Toxicity Estimate No information available

Chemical name	Oral LD50 mg/kg		Inhalation LC50 - 4	Inhalation LC50 - 4	Inhalation LC50 - 4
		mg/kg	hour - dust/mist - mg/L	hour - vapor - mg/L	hour - gas - ppm
Arginine 74-79-3	> 5110	No data available	No data available	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59).

#### **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

Inhalation Remove to fresh air. Seek immediate medical attention/advice.

**Eye contact** If symptoms persist, call a physician.

**Skin contact** Wash skin with soap and water. If skin irritation persists, call a physician.

**Ingestion** 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 For information on potential signs and sy

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, CO2, alcohol-resistant foam or water spray.

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

Specific hazards arising from the

chemical

Fine particles (such as dust and mists) may fuel fires/explosions.

Hazardous combustion products Formation of toxic gases is possible during heating or fire. May include oxides of sulfur

carbon nitrogen and products of chlorine

**Explosion data** 

**Sensitivity to mechanical impact** No information available. **Sensitivity to static discharge** No information available.

#### 5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

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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.

6.2. Environmental precautions

Environmental precautions Place waste in an appropriately labeled, sealed container for disposal. Care should be

taken to avoid environmental release.

#### 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 contaminated

surface 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

Minimize dust generation and accumulation. Avoid breathing

dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. When handling, use appropriate personal protective equipment (see Section 8). Wash thoroughly after handling. Releases to the environment should be avoided. Review and implement

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appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure or environmental releases. Potential points of process emissions of this material to the atmosphere should be controlled with dust collectors, HEPA filtration

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systems or other equivalent controls.

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 as directed by product packaging.

7.3. Specific end use(s)

Specific use(s) Pharmaceutical drug product.

### Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1. Control parameters

#### **Exposure Limits**

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

**Arginine** 

Latvia TWA: 10 mg/m<sup>3</sup>;

### **Pfizer Occupational Exposure Band**

(OEB) Statement:

The purpose of the Occupational Exposure Band (OEB) classification system is to separate substances into different Hazard categories when the available data are sufficient to do so, but inadequate to establish an Occupational Exposure Limit (OEL). The OEB given is based upon an analysis of all currently available data; as such, this value may be subject to revision when new information becomes available.

#### 8.2. Exposure controls

**Engineering controls** Engineering controls should be used as the primary means to control exposures. General

room ventilation is adequate unless the process generates dust, mist or fumes. Keep airborne contamination levels below the exposure limits listed above in this section.

Personal protective equipment Refer to applicable national standards and regulations in the selection and use of personal

protective equipment (PPE). 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.

**Eye/face protection** Wear safety glasses or goggles if eye contact is possible. (Eye protection must meet the

standards in accordance with EN166, ANSI Z87.1 or international equivalent.).

Hand protection Impervious gloves (e.g. Nitrile, etc.) are recommended if skin contact with drug product is

possible and for bulk processing operations. (Protective gloves must meet the standards in

accordance with EN374, ASTM F1001 or international equivalent.).

**Skin and body protection** Impervious protective clothing is recommended if skin contact with drug product is possible

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and for bulk processing operations. (Protective clothing must meet the standards in

accordance with EN13982, ANSI 103 or international equivalent.).

Under normal conditions of use, if the applicable Occupational Exposure Limit (OEL) is Respiratory protection

exceeded, wear an appropriate respirator with a protection factor sufficient to control exposures to below the OEL (e.g. particulate respirator with a half mask, P3 filter).

(Respirators must meet the standards in accordance with EN140, EN143, ASTM F2704-10

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or international equivalent.).

Thermal hazards No information available.

No information available. **Environmental exposure controls** 

### Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

**Physical state** Powder

Color White or yellow Odor

No information available. **Odor threshold** No information available

**Property** Values

Melting point / freezing point No data available Boiling point or initial boiling point and boiling range No data available Flammability (solid, gas) No data available

Lower and upper explosion limit/flammability limit

Lower explosion limit No data available Upper explosion limit No data available Flash point No data available

**Autoignition temperature** No data available **Decomposition temperature** 

SADT (°C)

No data available 4-6

pH (as aqueous solution) No data available Kinematic viscosity No data available Dynamic viscosity No data available Solubility No data available Vapor pressure No data available Density and/or relative density No data available

**Bulk density** No data available **Liquid Density** No data available Vapor density No data available

Particle characteristics

**Particle Size** No information available **Particle Size Distribution** No information available

Partition Coefficient: (Method, pH, Endpoint, Value)

**Arginine** 

Measured 7 Log P -4.2

9.2. Other information

Molecular formula Mixture Molecular weight Mixture

9.2.1. Information with regard to physical hazard classes

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No information available **Oxidizing properties** 

None

#### 9.2.2. Other safety characteristics

No information available

### Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stable under normal conditions. Stability

**Explosion data** 

Sensitivity to mechanical impact No information available. Sensitivity to static discharge No information available.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions No information available.

10.4. Conditions to avoid

Conditions to avoid Fine particles (such as dust and mists) may fuel fires/explosions.

10.5. Incompatible materials

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

#### 10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition products may include carbon monoxide, carbon dioxide, oxides of nitrogen, sulfur, hydrogen chloride and other chlorine- and sulfur-containing compounds.

### Section 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

**General Information:** The information included in this section describes the potential hazards of the individual

ingredients

Short term Individuals who are sensitive to beta lactam antibiotics, both penicillins and cephalosporins,

> may experience contact or systemic hypersensitivity and anaphylaxis upon exposure to this drug. Allergic reaction might occur following inhalation of dust, based on effects of other cephalosporins. Symptoms might include running nose, sneezing, itching, pulmonary obstruction or signs similar to asthma such as coughing, wheezing or difficulty breathing

which may be immediate or delayed.

Ingestion of this material may cause effects similar to those generally seen in clinical use of **Known Clinical Effects:** 

antibiotics including gastrointestinal irritation, vomiting, transient diarrhea, nausea, and abdominal pain. The most common side effect seen during clinical use is skin rash. Gastrointestinal effects such as diarrhea, nausea and vomiting also occur frequently

following oral administration.

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

Serious eye damage/eye irritation Based on available data, the classification criteria are not met.

Skin corrosion/irritation Based on available data, the classification criteria are not met. Respiratory or skin sensitization Based on available data, the classification criteria are not met. STOT - single exposure Based on available data, the classification criteria are not met. STOT - repeated exposure Based on available data, the classification criteria are not met. Reproductive toxicity Based on available data, the classification criteria are not met.

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

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

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Aspiration hazard

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

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Acute Toxicity: (Species, Route, End Point, Dose)

Cefepime Hydrochloride Hydrate
Rat Intravenous LD50 1272 mg/kg

Mouse IV LD50 1500-2000 mg/kg

**Arginine** 

Rat Oral LD50 > 5110 mg/kg

Irritation / Sensitization: (Study Type, Species, Severity)

<u>Arginine</u>

Skin irritation Rabbit Non-irritating Eye irritation Rabbit Non-irritating

Repeated Dose Toxicity: (Duration, Species, Route, Dose, End Point, Target Organ)

Cefepime Hydrochloride Hydrate

28 Day(s) Rat Subcutaneous 500 mg/kg/day NOAEL Blood

Reproduction & Development Toxicity: (Duration, Species, Route, Dose, End Point, Effect(s))

Cefepime Hydrochloride Hydrate

Reproductive & Fertility Rat Subcutaneous 1000 mg/kg/day NOAEL No effects at maximum dose Embryo / Fetal Development Rat Subcutaneous 1000 mg/kg/day NOAEL Not Teratogenic Embryo / Fetal Development Rabbit No route specified 100 mg/kg/day NOAEL Not Teratogenic Embryo / Fetal Development Mouse No route specified 1200 mg/kg/day NOAEL Not Teratogenic

Genetic Toxicity: (Study Type, Cell Type/Organism, Result)

Cefepime Hydrochloride Hydrate

In Vitro Chromosome Aberration Human Lymphocytes Positive

In Vitro Chromosome Aberration Chinese Hamster Ovary (CHO) cells Negative

In Vivo Chromosome Aberration Mouse Negative

In Vivo Micronucleus Mouse Negative

<u>Arginine</u>

In Vitro Chromosome Aberration Human Lymphocytes Negative

Bacterial Mutagenicity (Ames) Salmonella Negative

**Carcinogenicity**None of the components of this formulation are listed as a carcinogen by IARC, NTP or

OSHA.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

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

11.2.2. Other information

Other adverse effects No information available.

Section 12: ECOLOGICAL INFORMATION

Environmental Overview: Environmental properties have not been thoroughly investigated. Releases to the

environment should be avoided.

**12.1. Toxicity** 

Aquatic Toxicity: (Species, Method, End Point, Duration, Result)

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### Cefepime Hydrochloride Hydrate

Daphnia magna (Water Flea) EC50 640 mg/L

Arginine

Brachydanio rerio (Zebra fish) OECD LC50 96 hours 2800 mg/L Daphnia magna (Water Flea) OECD EC50 24 hours 1800 mg/L

### 12.2. Persistence and degradability

#### Persistence and degradability

# Biodegradation: (Method, Inoculum, Biodeg Study, Result, Endpoint, Duration, Classification)

**Arginine** 

OECD Activated sludge Ready 100 % After 28 Day(s) Ready

#### 12.3. Bioaccumulative potential

#### **Bioaccumulation**

#### Partition Coefficient: (Method, pH, Endpoint, Value)

Arginine

Measured 7 Log P -4.2

#### 12.4. Mobility in soil

**Mobility in soil** No information available.

#### 12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment Based on available data, the classification criteria are not met.

Chemical name	PBT and vPvB assessment		
Arginine	Not PBT/vPvB		

### 12.6. Endocrine disrupting properties

**Endocrine disrupting properties** Based on available data, the classification criteria are not met.

12.7. Other adverse effects

Other adverse effects No information available.

PMT or vPvM properties Based on available data, the classification criteria are not met.

### Section 13: DISPOSAL CONSIDERATIONS

#### 13.1. Waste treatment methods

### Waste from residues/unused products

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.

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### Section 14: TRANSPORT INFORMATION

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

Not regulated for transport under USDOT, EUADR, IATA, or IMDG regulations.

UN number:
UN proper shipping name:
Transport hazard class(es):
Packing group:
Environmental Hazard(s):
Not applicable
Not applicable
Not applicable

### Section 15: REGULATORY INFORMATION

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

Cefepime Hydrochloride Hydrate

CERCLA/SARA Section 313 de minimus % Not Listed
California Proposition 65 Not Listed
EINECS Not Listed

Arginine

CERCLA/SARA Section 313 de minimus % Not Listed
California Proposition 65 Not Listed
TSCA Present
EINECS 200-811-1
AICS Present

#### National regulations

<u>Germany</u>

Chemical Prohibition Ordinance (ChemVerbotsV)

Not applicable

TRGS 905 Not applicable

<u>Switzerland</u>

Ordinance on the Incentive Tax on Volatile Organic Compounds (OVOC) SR 814.018

Storage of Hazardous Material

WPO (GSchV) SR 814.201; WPA (GSchG) SR 814.20

Major Accidents Ordinance SR 814.012

Not applicable
Not applicable

#### **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.

### Authorizations and/or restrictions on use:

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

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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 (EU) 2024/590

Not applicable.

### **Explosives Precursors Marketing and Use (2019/1148)**

Not applicable

### Legend:

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

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

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

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing Chemicals Inventory

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

TCSI - Taiwan Chemical Substance Inventory

### 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

#### Full text of any hazard and/or precautionary statements referred to under Sections 2-15

H317 - May cause an allergic skin reaction H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

**Data Sources:** Pfizer proprietary drug development information. Publicly available toxicity information.

Reason for revision Updated Section 1 - Identification of the Substance/Preparation and the

Company/Undertaking.

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Prepared By Pfizer Global Environment, Health, and Safety

Pfizer Inc believes that the information contained in this Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied. If data for a hazard are not included in this document there is no known information at this time.

PZ03078