

Revision date 11-Dec-2023 Version 2.11 Page 1/11

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

1.1. Product identifier

Product Name Zosyn Galaxy (Piperacillin and Tazobactam Injection) in Galaxy® Containers (PL 2040

Plastic)

Product Code(s) WP00020

(Piperacillin and Tazobactam Injection) in Galaxy® Containers (PL 2040 Plastic) **Synonyms**

ZOSYN **Trade Name:** Penicillin **Chemical Family:**

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

Pfizer Inc Pfizer Ireland Pharmaceuticals

OSG Building 66 Hudson Boulevard East

New York, New York 10001 Ringaskiddy, Co. Cork. 1-800-879-3477

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: Regulated according to Regulation (EC) 1272/2008 and/or other applicable regulations.

Respiratory sensitization Category 1 - (H334) Skin sensitization Category 1 - (H317)

2.2. Label elements

Signal word Danger

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

H317 - May cause an allergic skin reaction

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray **Precautionary Statements**

P285 - In case of inadequate ventilation wear respiratory protection

P271 - Use only outdoors or in a well-ventilated area

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

P304 + P341 - IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a

position comfortable for breathing

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

doctor/physician

Product Name Zosyn Galaxy (Piperacillin and Tazobactam Injection) in Galaxy® Containers (PL 2040 Plastic)
Revision date 11-Dec-2023

Page 2 / 11 Version 2.11

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

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

P321 - Specific treatment (see supplemental first aid instructions on this label)

P363 - Wash contaminated clothing before reuse



An Occupational Exposure Value has been established for one or more of the ingredients (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.

Specific

according to | concentration

M-Factor

M-Factor

(long-term)

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Weight-%

3.1 Substances

Chemical name

Substances

Not applicable

REACH

Registration

3.2 Mixtures

Hazardous

		Number		Regulation (EC) No. 1272/2008 [CLP]	limit (SCL)		(iong tonn)
Piperacillin sodium (CAS #: 59703-84-3)	85		261-868-6	Resp. Sens.1 (H334) Skin Sens.1 (H317)	Not Listed	No data available	No data available
NonHazardous				T =	·		
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)
Tazobactam Sodium (CAS #: 89785-84-2)	10		Not Listed	Not classified as hazardous	Not Listed	No data available	No data available
Sodium citrate (CAS #: 68-04-2)	*	-	200-675-3	Not classified as hazardous	Not Listed	No data available	No data available
Disodium EDTA (dihydrate) (CAS #: 6381-92-6)	*	-	Not Listed	Not classified as hazardous	Not Listed	No data available	No data available
Water	*	-	231-791-2	Not classified	Not Listed	No data	No data

EC No

Classification

Product Name Zosyn Galaxy (Piperacillin and Tazobactam Injection) in Galaxy® Containers (PL 2040 Plastic)
Revision date 11-Dec-2023

Revision date 11-Dec-2023 Version 2.11

(CAS #: 7732-18-5)			as hazardous		available	available
Dextrose (CAS #: 14431-43-7)	*	Not Listed	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

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	
Piperacillin sodium 59703-84-3	10000	No data available	No data available	No data available	No data available
Water 7732-18-5	89838.9	No data available	No data available	No data available	No data available

Additional information * Proprietary

Non-hazardous ingredients provided for completeness. Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety. In accordance with 29 CFR 1910.1200, the exact percentage composition of this mixture has been withheld as a trade secret.

Page 3/11

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

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

Eye contact Immediately flush eyes with water for at least 15 minutes. If irritation occurs or persists, get

medical attention.

Skin contact Remove contaminated clothing. Flush area with large amounts of water. Use soap. Seek

medical attention. For information on potential delayed effects, see Section 2 - Hazards

Identification and/or Section 11 - Toxicological Information.

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

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

Product Name Zosyn Galaxy (Piperacillin and Tazobactam Injection) in Galaxy® Containers (PL 2040 Plastic)
Revision date 11-Dec-2023

Revision date 11-Dec-2023 Version 2.11

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the

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

chemical

Hazardous combustion products Emits toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides and

other sulfur-containing compounds.

5.3. Advice for firefighters

Special protective equipment for

fire-fighters

Wear approved positive pressure, self-contained breathing apparatus and full protective turn

Page 4/11

out gear. Evacuate area and fight fire from a safe distance.

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 spill if it is safe to do so. Collect spill with absorbent material. 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

Minimize generating airborne mists and vapors. 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. Review and implement 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 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

Product Name Zosyn Galaxy (Piperacillin and Tazobactam Injection) in Galaxy® Containers (PL 2040 Plastic)
Revision date 11-Dec-2023

Revision date 11-Dec-2023 Version 2.11

8.1. Control parameters

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

Page 5/11

revision when new information becomes available.

Piperacillin sodium

Pfizer Occupational Exposure

Band (OEB):

OEB 1 - Sensitizer (control exposure to the range of 1000ug/m³ to 3000ug/m³)

Tazobactam Sodium

Pfizer Occupational Exposure

Band (OEB):

OEB 1 (control exposure to the range of 1000ug/m³ to 3000ug/m³)

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.

Environmental exposure controls No information available.

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

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

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

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

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

or international equivalent.)

General hygiene considerations 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

Physical state Frozen Solution

ColorNo information availableOdorNo information available.Odor thresholdNo information available

Molecular formula Mixture

WP00020

Product Name Zosyn Galaxy (Piperacillin and Tazobactam Injection) in Galaxy® Containers (PL 2040 Plastic)

Revision date 11-Dec-2023 Version 2.11

Molecular weight Mixture

<u>Property</u> <u>Values</u>

pH No data available
Melting point / freezing point No data available

Boiling point / boiling range

Flash point

No information available

Evaporation rate No data available Flammability (solid, gas) No data available

Flammability Limit in Air
Upper flammability limit:

No data available

Lower flammability limit: No data available

No data available Vapor pressure Vapor density No data available Relative density No data available No data available Water solubility No data available Solubility(ies) No data available Partition coefficient **Autoignition temperature** No data available No data available **Decomposition temperature** No data available Kinematic viscosity No data available **Dynamic viscosity**

Particle characteristics

Particle SizeNo information availableParticle Size DistributionNo information availableExplosive propertiesNo 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 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

WP00020

Page 6/11

Product Name Zosyn Galaxy (Piperacillin and Tazobactam Injection) in Galaxy® Containers (PL 2040 Plastic)
Revision date 11-Dec-2023

Version date 11-Dec-2025

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

ingredients

Short term Individuals who are allergic to penicillin antibiotics could have allergic reaction, possibly

severe (anaphylactic). If an allergic reaction occurs, the worker should be removed to the

nearest emergency room and the appropriate therapy instituted.

Known Clinical Effects: May cause effects similar to those seen in clinical use including transient diarrhea, nausea

and abdominal pain. 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.

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 May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an

allergic skin reaction. Classification is based on mixture calculation methods based on

component data.

STOT - single exposure
STOT - repeated exposure
Reproductive toxicity
Based on available data, the classification criteria are not met.
Based on available data, the classification criteria are not met.
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Based on available data, the classification criteria are not met.

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

<u>Piperacillin sodium</u>
Rat Oral LD50 > 10 g/kg
Tazobactam Sodium

Mouse Oral LD50 > 5000 mg/kg

================================	-99			
Chemical name	Oral LD50	Dermal LD50	Inhalation LC50	
Piperacillin sodium	> 10 g/kg (Rat)	-	-	
Water	> 90 mL/kg (Rat)	-	-	

Acute Toxicity Comments: A greater than symbol (>) indicates that the toxicity endpoint being tested was not

achievable at the highest dose used in the test.

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

Piperacillin sodium

Reproductive & Fertility Rat Oral 0.5 times human dose NOAEL No effects at maximum dose Reproductive & Fertility Mouse Oral 0.5 times human dose NOAEL No effects at maximum dose Embryo / Fetal Development Rat No route specified Dose not specified Not Teratogenic

Embryo / Fetal Development Mouse No route specified Not Teratogenic

Tazobactam Sodium

Reproductive & Fertility Rat Oral 3 times human dose NOAEL No effects at maximum dose

Embryo / Fetal Development Rat Oral 14 times human dose NOAEL Not Teratogenic, No effects at maximum dose Embryo / Fetal Development Mouse Oral 6 times human dose NOAEL Not Teratogenic, No effects at maximum dose

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

Piperacillin sodium

Bacterial Mutagenicity (Ames) Salmonella Negative

WP00020

Page 7/11

rage 17

Version 2.11

Page 8/11

Product Name Zosyn Galaxy (Piperacillin and Tazobactam Injection) in Galaxy® Containers (PL 2040 Plastic)
Revision date 11-Dec-2023

Revision date 11-Dec-2023 Version 2.11

In Vivo Chromosome Aberration Mouse Bone Marrow Negative

Tazobactam Sodium

Bacterial Mutagenicity (Ames) Salmonella , E. coli Negative Mammalian Cell Mutagenicity Chinese Hamster Ovary (CHO) cells Negative

In Vitro Cytogenetics Hamster Lung Cells Negative In Vivo Chromosome Aberration Mouse 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 No information available.

11.2.2. Other information

Other adverse effects No information available.

Section 12: ECOLOGICAL INFORMATION

Environmental Overview: The environmental characteristics of this material have not been fully evaluated. Releases

to the environment should be avoided.

12.1. Toxicity

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

Tazobactam Sodium

Daphnia magna (Water Flea) LC50 48 hours > 8.5 mg/L

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

Chemical name	PBT and vPvB assessment
Piperacillin sodium	The substance is not PBT / vPvB
Sodium citrate	The substance is not PBT / vPvB PBT assessment does
	not apply
Disodium EDTA (dihydrate)	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Product Name Zosyn Galaxy (Piperacillin and Tazobactam Injection) in Galaxy® Containers (PL 2040 Plastic)
Revision date 11-Dec-2023

evision date 11-Dec-2025 version 2.

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.

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

Special precautions for user: Not applicable

Section 15: REGULATORY INFORMATION

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

Piperacillin sodium

CERCLA/SARA Section 313 de minimus % Not Listed
California Proposition 65 Not Listed
EINECS 261-868-6

Tazobactam Sodium

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

Sodium citrate

CERCLA/SARA Section 313 de minimus % Not Listed
California Proposition 65 Not Listed
TSCA Present
EINECS 200-675-3
AICS Present
Standard for Uniform Scheduling of Medicines and Schedule 5

Poisons (SUSMP)

Disodium EDTA (dihydrate)

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

WP00020

Page 9/11

Version 2.11

Product Name Zosyn Galaxy (Piperacillin and Tazobactam Injection) in Galaxy® Containers (PL 2040 Plastic)
Revision date 11-Dec-2023

Revision date 11-Dec-2025 Version 2.1

EINECS Not Listed AICS Present

Water

CERCLA/SARA Section 313 de minimus % Not Listed California Proposition 65 Not Listed TSCA Present EINECS 231-791-2 AICS Present

Dextrose

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

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

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

Full text of H-Statements referred to under section 3

Sensitization, skin-Cat.1; H317 - May cause an allergic skin reaction. Sensitization, respiratory-Cat.1; 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. Updated Section 2 - Hazard Identification. Updated Section 3 - Composition / Information on Ingredients. Updated Section 11 - Toxicology Information. Updated Section 12 - Ecological Information. Updated Section 15 - Regulatory Information.

WP00020

Page 10 / 11

Version 2.11

Product Name Zosyn Galaxy (Piperacillin and Tazobactam Injection) in Galaxy® Containers (PL 2040 Plastic) Revision date 11-Dec-2023

Page 11 / 11 Version 2.11

Updated Section 16 - Other Information.

Revision date 11-Dec-2023

Prepared By Pfizer Global Environment, Health, and Safety

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