

Cephapirin / Prednisolone Formulation

Version 8.0 Revision Date: 2023/12/04 SDS Number: 764056-00016 Date of last issue: 2023/09/30
Date of first issue: 2016/06/16

1. PRODUCT AND COMPANY IDENTIFICATION

Chemical product name : Cephapirin / Prednisolone Formulation
Other means of identification : Mastiplan (A011329)

Supplier's company name, address and phone number

Company name of supplier : MSD
Address : Kumagaya, Saitama Prefecture , Xicheng 810 MSD Co., Ltd.
Menuma factory
Telephone : 048-588-8411
E-mail address : EHSDATASTEWARD@msd.com
Emergency telephone number : +1-908-423-6000

Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product
Restrictions on use : Not applicable

2. HAZARDS IDENTIFICATION**GHS classification of chemical product**

Respiratory sensitisation : Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

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

Precautionary statements :

Prevention:

P261 Avoid breathing mist or vapours.
P284 Wear respiratory protection.

Response:

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342 + P311 If experiencing respiratory symptoms: Call a

Cephapirin / Prednisolone Formulation

Version 8.0 Revision Date: 2023/12/04 SDS Number: 764056-00016 Date of last issue: 2023/09/30
 Date of first issue: 2016/06/16

POISON CENTER/ doctor.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)	ENCS No.
Glyceryl monostearate	123-94-4	>= 1 - < 10	2-669
Zeolites	1318-02-1	> 0 - < 10	
Cefapirin	21593-23-7	>= 1 - < 10	
prednisolone	50-24-8	>= 0.25 - < 1	

4. FIRST AID MEASURES

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
 When symptoms persist or in all cases of doubt seek medical advice.
- If inhaled : If inhaled, remove to fresh air.
 If not breathing, give artificial respiration.
 If breathing is difficult, give oxygen.
 Get medical attention.
- In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.
 Remove contaminated clothing and shoes.
 Get medical attention.
 Wash clothing before reuse.
 Thoroughly clean shoes before reuse.
- In case of eye contact : Flush eyes with water as a precaution.
 Get medical attention if irritation develops and persists.
- If swallowed : If swallowed, DO NOT induce vomiting.
 Get medical attention.
 Rinse mouth thoroughly with water.
- Most important symptoms and effects, both acute and delayed : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Cephapirin / Prednisolone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/09/30
8.0	2023/12/04	764056-00016	Date of first issue: 2016/06/16

Notes to physician : Treat symptomatically and supportively.

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical

Unsuitable extinguishing media : None known.

Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides
Metal oxides
Silicon oxides

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions : Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

Cephapirin / Prednisolone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/09/30
8.0	2023/12/04	764056-00016	Date of first issue: 2016/06/16

7. HANDLING AND STORAGE**Handling**

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : Use only with adequate ventilation.
- Advice on safe handling : Avoid breathing mist or vapours.
Do not swallow.
Avoid contact with eyes.
Avoid prolonged or repeated contact with skin.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep container tightly closed.
Already sensitised individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitisers.
Take care to prevent spills, waste and minimize release to the environment.
- Avoidance of contact : Oxidizing agents
- Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.
When using do not eat, drink or smoke.
Wash contaminated clothing before re-use.
The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

Storage

- Conditions for safe storage : Keep in properly labelled containers.
Keep tightly closed.
Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:
Strong oxidizing agents
- Packaging material : Unsuitable material: None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Threshold limit value and permissible exposure limits for each component in the work environment**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Reference concentration / Permissible concentration	Basis
Glyceryl monostearate	123-94-4	TWA (Inhal-	10 mg/m3	ACGIH

Cephapirin / Prednisolone Formulation

Version 8.0 Revision Date: 2023/12/04 SDS Number: 764056-00016 Date of last issue: 2023/09/30
 Date of first issue: 2016/06/16

		able particulate matter)		
		TWA (Respirable particulate matter)	3 mg/m ³	ACGIH
Zeolites	1318-02-1	TWA (Respirable particulate matter)	1 mg/m ³ (Aluminium)	ACGIH
Cefapirin	21593-23-7	TWA	0.4 mg/m ³ (OEB 2)	Internal
Further information: RSEN				
prednisolone	50-24-8	TWA	10 µg/m ³ (OEB 3)	Internal
		Wipe limit	100 µg/100 cm ²	Internal

Engineering measures : Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less quick connections).
 All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.
 Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).
 Minimize open handling.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Combined particulates and organic vapour type

Hand protection

Material : Chemical-resistant gloves

Remarks : Consider double gloving.
 Eye protection : Wear safety glasses with side shields or goggles.
 If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.
 Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

Skin and body protection : Work uniform or laboratory coat.
 Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.
 Use appropriate degowning techniques to remove potentially contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Cephapirin / Prednisolone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/09/30
8.0	2023/12/04	764056-00016	Date of first issue: 2016/06/16

Physical state	:	liquid, oily
Colour	:	No data available
Odour	:	No data available
Odour Threshold	:	No data available
Melting point/freezing point	:	No data available
Boiling point, initial boiling point and boiling range	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	No data available
Lower explosion limit and upper explosion limit / flammability limit		
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	No data available
Decomposition temperature	:	No data available
pH	:	No data available
Evaporation rate	:	No data available
Auto-ignition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Density and / or relative density		
Density	:	No data available
Relative vapour density	:	No data available
Explosive properties	:	Not explosive

Cephapirin / Prednisolone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/09/30
8.0	2023/12/04	764056-00016	Date of first issue: 2016/06/16

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Molecular weight : No data available

Particle characteristics
Particle size : No data available

10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Can react with strong oxidizing agents.

Conditions to avoid : None known.

Incompatible materials : Oxidizing agents

Hazardous decomposition products : No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Components:**Glyceryl monostearate:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Remarks: Based on data from similar materials

Zeolites:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 3.35 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Cefapirin / Prednisolone Formulation

Version 8.0 Revision Date: 2023/12/04 SDS Number: 764056-00016 Date of last issue: 2023/09/30
Date of first issue: 2016/06/16

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Cefapirin:

Acute oral toxicity : LD50 (Mouse): 26,000 mg/kg
Acute toxicity (other routes of administration) : LD50 (Mouse): > 7,600 mg/kg
Application Route: Intraperitoneal
LD50 (Rat): 7,800 mg/kg
Application Route: Intraperitoneal

prednisolone:

Acute oral toxicity : LD50 (Mouse): 1,680 mg/kg
LD50 (Rat): > 3,857 mg/kg
Acute inhalation toxicity : Remarks: No data available
Acute dermal toxicity : Remarks: No data available
Acute toxicity (other routes of administration) : LD50 (Rat): 147 mg/kg
Application Route: Subcutaneous
LD50 (Mouse): 767 mg/kg
Application Route: Intraperitoneal

Skin corrosion/irritation

Not classified based on available information.

Components:**Glyceryl monostearate:**

Species : Rabbit
Result : No skin irritation
Remarks : Based on data from similar materials

Zeolites:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

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Remarks : No data available

Serious eye damage/eye irritation

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Cephapirin / Prednisolone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/09/30
8.0	2023/12/04	764056-00016	Date of first issue: 2016/06/16

Components:**Glyceryl monostearate:**

Species	:	Rabbit
Result	:	No eye irritation
Remarks	:	Based on data from similar materials

Zeolites:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

prednisolone:

Remarks	:	No data available
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Respiratory or skin sensitisation**Skin sensitisation**

Not classified based on available information.

Respiratory sensitisation

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

Components:**Glyceryl monostearate:**

Test Type	:	Buehler Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Result	:	negative
Remarks	:	Based on data from similar materials

Zeolites:

Test Type	:	Buehler Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative

Cefapirin:

Assessment	:	Probability or evidence of high respiratory sensitisation rate in humans
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Remarks	:	No data available
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Germ cell mutagenicity

Not classified based on available information.

Cephapirin / Prednisolone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/09/30
8.0	2023/12/04	764056-00016	Date of first issue: 2016/06/16

Components:**Glyceryl monostearate:**

Genotoxicity in vitro	:	<p>Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: negative Remarks: Based on data from similar materials</p> <p>Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative Remarks: Based on data from similar materials</p> <p>Test Type: In vitro mammalian cell gene mutation test Result: negative Remarks: Based on data from similar materials</p>
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Zeolites:

Genotoxicity in vitro	:	<p>Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative</p> <p>Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: positive</p> <p>Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative</p>
Genotoxicity in vivo	:	<p>Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Ingestion Method: OECD Test Guideline 474 Result: negative</p>

Cefapirin:

Genotoxicity in vitro	:	<p>Test Type: Bacterial reverse mutation assay (AMES) Result: negative</p>
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Genotoxicity in vitro	:	<p>Test Type: Bacterial reverse mutation assay (AMES) Result: negative</p> <p>Test Type: Mouse Lymphoma Result: negative</p> <p>Test Type: sister chromatid exchange assay Result: negative</p>
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Cephapirin / Prednisolone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/09/30
8.0	2023/12/04	764056-00016	Date of first issue: 2016/06/16

Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Rat Application Route: Oral Result: negative
		Test Type: sister chromatid exchange assay Species: Humans Result: negative

Carcinogenicity

Not classified based on available information.

Components:**Zeolites:**

Species	:	Rat
Application Route	:	Ingestion
Exposure time	:	104 weeks
Result	:	negative

Species	:	Rat
Application Route	:	inhalation (dust/mist/fume)
Exposure time	:	22 Months
Result	:	negative

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Species	:	Rat
Application Route	:	Oral
Exposure time	:	18 Months
Result	:	negative

Reproductive toxicity

Not classified based on available information.

Components:**Glyceryl monostearate:**

Effects on fertility	:	Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Species: Rat Application Route: Ingestion Method: OECD Test Guideline 422 Result: negative Remarks: Based on data from similar materials
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Effects on foetal development	:	Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Species: Rat Application Route: Ingestion
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Cephapirin / Prednisolone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/09/30
8.0	2023/12/04	764056-00016	Date of first issue: 2016/06/16

Method: OECD Test Guideline 422
 Result: negative
 Remarks: Based on data from similar materials

Zeolites:

Effects on foetal development : Test Type: Embryo-foetal development
 Species: Rat
 Application Route: Ingestion
 Result: negative

Cefapirin:

Effects on fertility : Test Type: Fertility/early embryonic development
 Species: Rat
 Application Route: Intraperitoneal injection
 Fertility: LOAEL: > 500 mg/kg body weight
 Result: No effects on fertility

Effects on foetal development : Test Type: Embryo-foetal development
 Species: Rat
 Application Route: Intraperitoneal injection
 Developmental Toxicity: LOAEL: > 200 mg/kg body weight

prednisolone:

Effects on fertility : Test Type: Fertility/early embryonic development
 Species: Rat
 Application Route: Subcutaneous
 Fertility: NOAEL: 1 mg/kg body weight
 Result: No effects on fertility

Effects on foetal development : Test Type: Embryo-foetal development
 Species: Mouse
 Application Route: Oral
 Developmental Toxicity: LOAEL: 0.5 mg/kg body weight
 Result: Malformations were observed., Cleft palate

Test Type: Embryo-foetal development
 Species: Rat
 Application Route: Oral
 Developmental Toxicity: LOAEL: 30 mg/kg body weight
 Result: decreased blood formation

Species: Rat
 Application Route: Subcutaneous
 Developmental Toxicity: NOAEL: 25 mg/kg body weight
 Result: No effects on foetal development

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

Cephapirin / Prednisolone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/09/30
8.0	2023/12/04	764056-00016	Date of first issue: 2016/06/16

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Components:**Zeolites:**

Assessment	:	No significant health effects observed in animals at concentrations of 0.2 mg/l/6h/d or less.
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Target Organs	:	Bone marrow, Adrenal gland, Liver
Assessment	:	Causes damage to organs through prolonged or repeated exposure.

Repeated dose toxicity**Components:****Glyceryl monostearate:**

Species	:	Rat
NOAEL	:	>= 12,500 mg/kg
Application Route	:	Ingestion
Exposure time	:	84 Days
Remarks	:	Based on data from similar materials

Zeolites:

Species	:	Rat
NOAEL	:	250 - 300 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days

Species	:	Monkey
LOAEL	:	0.001 mg/l
Application Route	:	inhalation (dust/mist/fume)
Exposure time	:	24 Months

Cefapirin:

Species	:	Rat
LOAEL	:	>= 200 mg/kg
Application Route	:	Intraperitoneal
Target Organs	:	Blood
Remarks	:	anemia

Species	:	Dog
LOAEL	:	20 mg/kg
Application Route	:	Oral
Exposure time	:	4 Months

Cephapirin / Prednisolone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/09/30
8.0	2023/12/04	764056-00016	Date of first issue: 2016/06/16

|| Target Organs : Gastrointestinal tract

|| Species : Dog
 || LOAEL : 100 mg/kg
 || Application Route : Intramuscular
 || Exposure time : 10 Months
 || Target Organs : Blood, Gastrointestinal tract
 || Remarks : anemia

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|| Species : Rat
 || LOAEL : 0.6 mg/kg
 || Application Route : Oral
 || Exposure time : 63 Days
 || Target Organs : Bone marrow

|| Species : Dog
 || LOAEL : 2.5 mg/kg
 || Application Route : Oral
 || Exposure time : 6 Weeks
 || Target Organs : Adrenal gland

|| Species : Rabbit
 || LOAEL : 1 mg/kg
 || Application Route : Oral
 || Exposure time : 24 Weeks
 || Target Organs : Liver

Aspiration toxicity

Not classified based on available information.

Experience with human exposure**Components:****Cefapirin:**

|| Ingestion : Symptoms: Nausea, Vomiting, Abdominal pain, Diarrhoea, vaginitis, colitis, anorexia, Rash, anaphylaxis

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|| Ingestion : Symptoms: sodium retention, Headache, Vertigo, fluid retention, subcutaneous bleeding, striae, skin atrophy, menstrual irregularities

Cephapirin / Prednisolone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/09/30
8.0	2023/12/04	764056-00016	Date of first issue: 2016/06/16

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:**Glyceryl monostearate:**

Toxicity to fish	:	LL50 (Leuciscus idus (Golden orfe)): > 100 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): > 32 mg/l Exposure time: 47 h Method: Directive 67/548/EEC, Annex V, C.2. Remarks: No toxicity at the limit of solubility Based on data from similar materials
Toxicity to algae/aquatic plants	:	EL50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201 Remarks: No toxicity at the limit of solubility NOELR (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201 Remarks: No toxicity at the limit of solubility
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): > 0.22 mg/l Exposure time: 21 d Method: OECD Test Guideline 211 Remarks: No toxicity at the limit of solubility Based on data from similar materials
Toxicity to microorganisms	:	EC10 (Pseudomonas putida): > 1 mg/l Exposure time: 18 h Remarks: Based on data from similar materials

Zeolites:

Toxicity to fish	:	LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: ISO 6341
Toxicity to algae/aquatic plants	:	EL50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h

Cephapirin / Prednisolone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/09/30
8.0	2023/12/04	764056-00016	Date of first issue: 2016/06/16

	Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201
	NOELR (Desmodesmus subspicatus (green algae)): > 1 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	: NOELR (Pimephales promelas (fathead minnow)): > 1 mg/l Exposure time: 30 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOELR (Daphnia magna (Water flea)): > 1 mg/l Exposure time: 21 d Method: OECD Test Guideline 211
Toxicity to microorganisms	: EC50 (Pseudomonas putida): > 100 mg/l Exposure time: 16 h Method: DIN 38 412 Part 8

prednisolone:

Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 85 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	: NOEC (Pseudokirchneriella subcapitata (green algae)): 160 mg/l Exposure time: 72 h
	EC50 (Pseudokirchneriella subcapitata (green algae)): > 160 mg/l Exposure time: 72 h
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC (Ceriodaphnia dubia (water flea)): 0.23 mg/l Exposure time: 7 d

Persistence and degradability**Components:****Glyceryl monostearate:**

Biodegradability	: Result: Readily biodegradable. Remarks: Based on data from similar materials
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Bioaccumulative potential**Components:****Glyceryl monostearate:**

Partition coefficient: n-octanol/water	: log Pow: 6.1
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Zeolites:

Cephapirin / Prednisolone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/09/30
8.0	2023/12/04	764056-00016	Date of first issue: 2016/06/16

Bioaccumulation : Species: Oysters
Bioconcentration factor (BCF): 0.34 - 1.44

Partition coefficient: n-octanol/water : Remarks: No data available

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Partition coefficient: n-octanol/water : log Pow: 1.46

Mobility in soil

No data available

Hazardous to the ozone layer

Not applicable

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.
Do not dispose of waste into sewer.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
If not otherwise specified: Dispose of as unused product.

14. TRANSPORT INFORMATION**International Regulations****UNRTDG**

UN number : Not applicable
Proper shipping name : Not applicable
Class : Not applicable
Subsidiary risk : Not applicable
Packing group : Not applicable
Labels : Not applicable

IATA-DGR

UN/ID No. : Not applicable
Proper shipping name : Not applicable
Class : Not applicable
Subsidiary risk : Not applicable
Packing group : Not applicable
Labels : Not applicable
Packing instruction (cargo aircraft) : Not applicable
Packing instruction (passenger aircraft) : Not applicable

IMDG-Code

UN number : Not applicable

Cephapirin / Prednisolone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/09/30
8.0	2023/12/04	764056-00016	Date of first issue: 2016/06/16

Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
EmS Code	:	Not applicable
Marine pollutant	:	Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

Refer to section 15 for specific national regulation.

Special precautions for user

Not applicable

15. REGULATORY INFORMATION**Related Regulations****Fire Service Law**

Not applicable to dangerous materials / designated flammables.

Chemical Substance Control Law

Not applicable for Specified Chemical Substance, Monitoring Chemical Substance and Priority Assessment Chemical Substance.

Industrial Safety and Health Law**Harmful Substances Prohibited from Manufacture**

Not applicable

Harmful Substances Required Permission for Manufacture

Not applicable

Substances Prevented From Impairment of Health

Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity

Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity

Not applicable

Substances Subject to be Notified Names

Article 57-2 (Enforcement Order Table 9)

Chemical name	Concentration (%)	Remarks
Zeolites	>0 - <10	From April 1st, 2025

Substances Subject to be Indicated Names

Article 57 (Enforcement Order Article 18)

Cephapirin / Prednisolone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/09/30
8.0	2023/12/04	764056-00016	Date of first issue: 2016/06/16

Chemical name	Remarks
Zeolites	From April 1st, 2025

Carcinogenic Substances (Article 577-2 of the Occupational Health and Safety Regulations)

Not applicable

Ordinance on Prevention of Hazards Due to Specified Chemical Substances

Not applicable

Ordinance on Prevention of Lead Poisoning

Not applicable

Ordinance on Prevention of Tetraalkyl Lead Poisoning

Not applicable

Ordinance on Prevention of Organic Solvent Poisoning

Not applicable

Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)

Not applicable

Poisonous and Deleterious Substances Control Law

Not applicable

Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

Not applicable

High Pressure Gas Safety Act

Not applicable

Explosive Control Law

Not applicable

Vessel Safety Law

Not regulated as a dangerous good

Aviation Law

Not regulated as a dangerous good

Marine Pollution and Sea Disaster Prevention etc Law

Bulk transportation : Noxious liquid substance(Category Y)

Pack transportation : Not classified as marine pollutant

Narcotics and Psychotropics Control Act

Narcotic or Psychotropic Raw Material (Export / Import Permission)

Not applicable

Specific Narcotic or Psychotropic Raw Material (Export / Import permission)

Not applicable

Waste Disposal and Public Cleansing Law

Industrial waste

Cephapirin / Prednisolone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/09/30
8.0	2023/12/04	764056-00016	Date of first issue: 2016/06/16

The components of this product are reported in the following inventories:

AICS	:	not determined
DSL	:	not determined
IECSC	:	not determined

16. OTHER INFORMATION**Further information**

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Date format : yyyy/mm/dd

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

ACGIH / TWA : 8-hour, time-weighted average

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Trans-

Cephapirin / Prednisolone Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/09/30
8.0	2023/12/04	764056-00016	Date of first issue: 2016/06/16

portation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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