

# Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

Version 4.0      Revision Date: 2023/09/30      SDS Number: 10811343-00006      Date of last issue: 2023/04/04  
Date of first issue: 2022/07/08

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## 1. PRODUCT AND COMPANY IDENTIFICATION

Chemical product name : Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

### 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

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## 2. HAZARDS IDENTIFICATION

### GHS classification of chemical product

Respiratory sensitisation : Category 1

Skin sensitisation : Category 1

Specific target organ toxicity - repeated exposure (Oral) : Category 1 (ear, Kidney, inner ear)

Short-term (acute) aquatic hazard : Category 2

### GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H317 May cause an allergic skin reaction.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H372 Causes damage to organs (ear, Kidney, inner ear)

# Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

Version 4.0      Revision Date: 2023/09/30      SDS Number: 10811343-00006      Date of last issue: 2023/04/04  
 Date of first issue: 2022/07/08

through prolonged or repeated exposure if swallowed.  
 H401 Toxic to aquatic life.

Precautionary statements :

**Prevention:**

P260 Do not breathe mist or vapours.  
 P264 Wash skin thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P272 Contaminated work clothing should not be allowed out of the workplace.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves.  
 P284 Wear respiratory protection.

**Response:**

P302 + P352 IF ON SKIN: Wash with plenty of water.  
 P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
 P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.  
 P362 + P364 Take off contaminated clothing and wash it before reuse.

**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.
Dihydrostreptomycin sulphate	5490-27-7	>= 20 - < 30	
Benzylpenicillin	61-33-6	>= 20 - < 25	
Sodium hydroxymethanesulphinate	149-44-0	>= 0.1 - < 1	2-1633

### 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.

## Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/04/04
4.0	2023/09/30	10811343-00006	Date of first issue: 2022/07/08

---

- 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 an allergic skin reaction.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
Causes damage to organs through prolonged or repeated exposure if swallowed.  
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).
- Notes to physician : Treat symptomatically and supportively.
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### 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
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
- 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.
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### 6. ACCIDENTAL RELEASE MEASURES

## Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/04/04
4.0	2023/09/30	10811343-00006	Date of first issue: 2022/07/08

---

- 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.

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### 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 : Do not get on skin or clothing. Do not breathe mist or vapours. Do not swallow. Avoid contact with eyes. Wash skin thoroughly after handling. 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. Do not eat, drink or smoke when using this product. 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

## Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

Version 4.0      Revision Date: 2023/09/30      SDS Number: 10811343-00006      Date of last issue: 2023/04/04  
Date of first issue: 2022/07/08

flushing systems and safety showers close to the working place.  
When using do not eat, drink or smoke.  
Contaminated work clothing should not be allowed out of the workplace.  
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
Dihydrostreptomycin sulphate	5490-27-7	TWA	0.4 mg/m <sup>3</sup> (OEB 2)	
	Further information: OTO			
		Wipe limit	Not required	
Benzylpenicillin	61-33-6	TWA	600 µg/m <sup>3</sup> (OEB 2)	Internal
	Further information: RSEN, DSEN			
		Wipe limit	100 µg/100 cm <sup>2</sup>	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.  
Laboratory operations do not require special containment.

### Personal protective equipment

- Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the rec-

## Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/04/04
4.0	2023/09/30	10811343-00006	Date of first issue: 2022/07/08

---

Filter type	: Recommended guidelines, use respiratory protection.
Hand protection	: Particulates type
Material	: Chemical-resistant gloves
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.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: suspension
Colour	: off-white, white
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 per 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	: 5.0 - 7.2
Evaporation rate	: No data available
Auto-ignition temperature	: No data available
Viscosity	
Viscosity, kinematic	: No data available

## Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/04/04
4.0	2023/09/30	10811343-00006	Date of first issue: 2022/07/08

---

Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	Not applicable
Vapour pressure	:	No data available
Density and / or relative density		
Relative density	:	No data available
Density	:	1.14 - 1.18 g/cm <sup>3</sup>
Relative vapour density	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available
Particle characteristics		
Particle size	:	No data available
Particle Size Distribution	:	D50 = 15 µm D90 = 30 µm

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### 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.

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### 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation Skin contact Ingestion Eye contact
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## Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

Version 4.0      Revision Date: 2023/09/30      SDS Number: 10811343-00006      Date of last issue: 2023/04/04  
Date of first issue: 2022/07/08

---

### Acute toxicity

Not classified based on available information.

### Components:

#### Dihydrostreptomycin sulphate:

Acute oral toxicity : LD50 (Rat): 9,000 - 25,000 mg/kg  
LD50 Oral (Mouse): 30,000 mg/kg

#### Benzylpenicillin:

Acute oral toxicity : LD50 (Rat): 8,000 mg/kg  
LD50 (Mouse): > 5,000 mg/kg  
Acute toxicity (other routes of administration) : LD50 (Mouse): 3,500 mg/kg  
Application Route: Intraperitoneal  
LD50 (Mouse): 329 mg/kg  
Application Route: Intravenous

#### Sodium hydroxymethanesulphinate:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 423  
Assessment: The substance or mixture has no acute oral toxicity  
Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

### Skin corrosion/irritation

Not classified based on available information.

### Components:

#### Sodium hydroxymethanesulphinate:

Species : Rat  
Result : No skin irritation

### Serious eye damage/eye irritation

Not classified based on available information.

### Components:

#### Sodium hydroxymethanesulphinate:

Species : Rabbit  
Result : No eye irritation



# Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

Version 4.0      Revision Date: 2023/09/30      SDS Number: 10811343-00006      Date of last issue: 2023/04/04  
 Date of first issue: 2022/07/08

---

|| Method : OECD Test Guideline 405

## Respiratory or skin sensitisation

### Skin sensitisation

May cause an allergic skin reaction.

### Respiratory sensitisation

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

### Components:

#### Benzylpenicillin:

|| Test Type : Local lymph node assay (LLNA)  
 || Exposure routes : Dermal  
 || Species : Mouse  
 || Result : Weak sensitizer

|| Test Type : Maximisation Test  
 || Exposure routes : Dermal  
 || Species : Guinea pig  
 || Result : positive  
 || Remarks : Based on data from similar materials

|| Result : Strong sensitizer  
 || Remarks : Based on human experience.

#### Sodium hydroxymethanesulphinat:

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

### Germ cell mutagenicity

Not classified based on available information.

### Components:

#### Dihydrostreptomycin sulphate:

|| Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro  
 || Test system: Human lymphocytes  
 || Result: negative

#### Benzylpenicillin:

|| Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

#### Sodium hydroxymethanesulphinat:

## Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

Version 4.0      Revision Date: 2023/09/30      SDS Number: 10811343-00006      Date of last issue: 2023/04/04  
 Date of first issue: 2022/07/08

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative  Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: positive
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Intraperitoneal injection Method: OECD Test Guideline 474 Result: positive
Germ cell mutagenicity - Assessment	:	Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.

### **Carcinogenicity**

Not classified based on available information.

### **Components:**

#### **Dihydrostreptomycin sulphate:**

Species	:	Rat
Application Route	:	Oral
Exposure time	:	2 Years
NOAEL	:	5 mg/kg body weight
Result	:	negative

### **Reproductive toxicity**

Not classified based on available information.

### **Components:**

#### **Dihydrostreptomycin sulphate:**

Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rabbit Application Route: Oral Developmental Toxicity: NOAEL: 5 mg/kg body weight  Test Type: Embryo-foetal development Species: Guinea pig Application Route: Intramuscular General Toxicity Maternal: LOAEL: 100 - 200 mg/kg body weight Developmental Toxicity: NOAEL: 10 mg/kg body weight Result: Maternal toxicity observed., Embryotoxic effects and adverse effects on the offspring were detected.
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## Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

Version 4.0      Revision Date: 2023/09/30      SDS Number: 10811343-00006      Date of last issue: 2023/04/04  
 Date of first issue: 2022/07/08

### Benzylpenicillin:

Effects on fertility	:	Test Type: Fertility Species: Mouse Result: No effects on fertility
		Test Type: Fertility Species: Rat Result: No effects on fertility
		Test Type: Fertility Species: Rabbit Result: No effects on fertility
Effects on foetal development	:	Test Type: Development Species: Mouse Result: No effects on foetal development
		Test Type: Development Species: Rat Result: No effects on foetal development
		Test Type: Development Species: Rabbit Result: No effects on foetal development

### Sodium hydroxymethanesulphinate:

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
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Method: OECD Test Guideline 414 Result: positive
Reproductive toxicity - Assessment	:	Some evidence of adverse effects on development, based on animal experiments.

#### STOT - single exposure

Not classified based on available information.

#### STOT - repeated exposure

Causes damage to organs (ear, Kidney, inner ear) through prolonged or repeated exposure if swallowed.

## Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

Version 4.0      Revision Date: 2023/09/30      SDS Number: 10811343-00006      Date of last issue: 2023/04/04  
 Date of first issue: 2022/07/08

---

### Components:

#### Dihydrostreptomycin sulphate:

Assessment : Causes damage to organs through prolonged or repeated exposure.

#### Repeated dose toxicity

### Components:

#### Dihydrostreptomycin sulphate:

Species : Guinea pig  
 LOAEL : 40 mg/kg  
 Application Route : Oral  
 Exposure time : 90 d  
 Target Organs : ear  
 Symptoms : hearing loss

Species : Cat  
 LOAEL : 100 mg/kg  
 Application Route : Oral  
 Exposure time : 60 d  
 Target Organs : ear  
 Symptoms : ataxia, hearing loss, Reduced body weight

Species : Cat  
 LOAEL : 300 mg/kg  
 Application Route : Oral  
 Exposure time : 21 d  
 Target Organs : ear  
 Symptoms : ataxia, hearing loss, Reduced body weight

#### Sodium hydroxymethanesulphinat:

Species : Rat  
 NOAEL : 600 mg/kg  
 Application Route : Ingestion  
 Exposure time : 13 Weeks  
 Method : OECD Test Guideline 408

#### Aspiration toxicity

Not classified based on available information.

#### Experience with human exposure

### Components:

#### Dihydrostreptomycin sulphate:

General Information : Symptoms: Erythema, hearing loss, Nausea, Rash, Vomiting, Headache, hypotension

# Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

Version 4.0      Revision Date: 2023/09/30      SDS Number: 10811343-00006      Date of last issue: 2023/04/04  
 Date of first issue: 2022/07/08

## Benzylpenicillin:

Inhalation : Symptoms: Allergic reactions, Abdominal pain, bronchospasm, skin rash

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

#### Benzylpenicillin:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 hrs Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 3.6 mg/l Exposure time: 48 hrs Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Raphidocelis subcapitata (freshwater green alga)): > 100 mg/l Exposure time: 72 hrs Method: OECD Test Guideline 201  NOEC (Raphidocelis subcapitata (freshwater green alga)): 50 mg/l Exposure time: 72 hrs Method: OECD Test Guideline 201  EC50 (blue-green algae): 0.74 mg/l Exposure time: 72 hrs Method: OECD Test Guideline 201  NOEC (blue-green algae): 0.14 mg/l Exposure time: 72 hrs Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to microorganisms	:	EC50: > 500 mg/l Exposure time: 3 h Test Type: Respiration inhibition Method: OECD Test Guideline 209  NOEC: 5 mg/l Exposure time: 3 h Test Type: Respiration inhibition Method: OECD Test Guideline 209

## Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

Version 4.0      Revision Date: 2023/09/30      SDS Number: 10811343-00006      Date of last issue: 2023/04/04  
 Date of first issue: 2022/07/08

### Sodium hydroxymethanesulphinate:

Toxicity to fish	: LC50 (Leuciscus idus (Golden orfe)): > 10,000 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: ErC50 (Desmodesmus subspicatus (green algae)): 370 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
	: NOEC (Desmodesmus subspicatus (green algae)): 10 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	: NOEC (Danio rerio (zebra fish)): 13.5 mg/l Exposure time: 35 d Method: OECD Test Guideline 210
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: EC10 (Daphnia magna (Water flea)): 8 mg/l Exposure time: 21 d Method: OECD Test Guideline 211
Toxicity to microorganisms	: NOEC: 10 mg/l Exposure time: 4 h

### Persistence and degradability

#### Components:

#### **Benzylpenicillin:**

Biodegradability	: Result: Readily biodegradable. Biodegradation: 70.10 % Exposure time: 28 d Method: OECD Test Guideline 301B
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#### **Sodium hydroxymethanesulphinate:**

Biodegradability	: Result: Readily biodegradable. Biodegradation: 77 % Exposure time: 28 d Method: OECD Test Guideline 301B
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### Bioaccumulative potential

#### Components:

#### **Sodium hydroxymethanesulphinate:**

Partition coefficient: n-	: log Pow: < 0.3
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# Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/04/04
4.0	2023/09/30	10811343-00006	Date of first issue: 2022/07/08

---

|| Octanol/water

### Mobility in soil

No data available

### Hazardous to the ozone layer

Not applicable

### Other adverse effects

No data available

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## 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.

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

**Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 2023/04/04
4.0	2023/09/30	10811343-00006	Date of first issue: 2022/07/08

---

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

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**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**

Not applicable

**Substances Subject to be Indicated Names**

Not applicable

**Ordinance on Prevention of Hazards Due to Specified Chemical Substances**

Not applicable

**Ordinance on Prevention of Lead Poisoning**

Not applicable



## Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

Version 4.0      Revision Date: 2023/09/30      SDS Number: 10811343-00006      Date of last issue: 2023/04/04  
Date of first issue: 2022/07/08

---

**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 : Not classified as noxious liquid substance

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

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

AICS : not determined

DSL : not determined

IECSC : not determined

## Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/04/04
4.0	2023/09/30	10811343-00006	Date of first issue: 2022/07/08

---

### 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

AllC - 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; KECl - 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 - Transportation 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

## Benzylpenicillin / Dihydrostreptomycin Sulphate Formulation

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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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