

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version 2.7      Revision Date: 2023/09/30      SDS Number: 7213849-00009      Date of last issue: 2023/04/04  
Date of first issue: 2020/10/30

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

#### Manufacturer or supplier's details

Company : MSD

Address : No. 485 Jing Tai Road  
Pu Tuo District - Shanghai - China 200331

Telephone : +1-908-740-4000

Emergency telephone number : 86-571-87268110

E-mail address : EHSDATASTEWARD@msd.com

#### Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product

Restrictions on use : Not applicable

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

**Appearance** : suspension  
**Colour** : white to off-white  
**Odour** : No data available

May be fatal if swallowed and enters airways. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life. May cause long lasting harmful effects to aquatic life.

#### GHS Classification

Respiratory sensitisation : Category 1

Skin sensitisation : Category 1

Specific target organ toxicity - repeated exposure : Category 2

Aspiration hazard : Category 1

Short-term (acute) aquatic hazard : Category 2

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version 2.7      Revision Date: 2023/09/30      SDS Number: 7213849-00009      Date of last issue: 2023/04/04  
Date of first issue: 2020/10/30

---

Long-term (chronic) aquatic hazard : Category 4

### GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H304 May be fatal if swallowed and enters airways.  
H317 May cause an allergic skin reaction.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H401 Toxic to aquatic life.  
H413 May cause long lasting harmful effects to aquatic life.

Precautionary statements : **Prevention:**  
P260 Do not breathe mist or vapours.  
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:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
P302 + P352 IF ON SKIN: Wash with plenty of water.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P331 Do NOT induce vomiting.  
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.

### Storage:

P405 Store locked up.

### Disposal:

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

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version 2.7      Revision Date: 2023/09/30      SDS Number: 7213849-00009      Date of last issue: 2023/04/04  
Date of first issue: 2020/10/30

### Physical and chemical hazards

Not classified based on available information.

### Health hazards

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways.

### Environmental hazards

Toxic to aquatic life. May cause long lasting harmful effects to aquatic life.

### 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)
Paraffin oil	8012-95-1	>= 70 -< 90
Benzylpenicillin	61-33-6	>= 10 -< 20
Sodium [2S-(2 $\alpha$ ,5 $\alpha$ ,6 $\beta$ )]-6-[[[(2-ethoxy-1-naphthyl)carbonyl]amino]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate	985-16-0	>= 1 -< 10
Dihydrostreptomycin sulphate	5490-27-7	>= 1 -< 10
Fatty acids, C14-26, aluminum salts	97404-28-9	>= 1 -< 10

## 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.  
If vomiting occurs have person lean forward.

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/04/04
2.7	2023/09/30	7213849-00009	Date of first issue: 2020/10/30

Most important symptoms and effects, both acute and delayed : Call a physician or poison control centre immediately.  
Never give anything by mouth to an unconscious person.  
May be fatal if swallowed and enters airways.  
May cause an allergic skin reaction.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause damage to organs through prolonged or repeated exposure.  
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.

### 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.

### 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

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/04/04
2.7	2023/09/30	7213849-00009	Date of first issue: 2020/10/30

---

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

#### Storage

Conditions for safe storage : Keep in properly labelled containers.  
Store locked up.  
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.

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version 2.7      Revision Date: 2023/09/30      SDS Number: 7213849-00009      Date of last issue: 2023/04/04  
Date of first issue: 2020/10/30

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Paraffin oil	8012-95-1	TWA (Inhalable particulate matter)	5 mg/m <sup>3</sup>	ACGIH
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
Sodium [2S-(2α,5α,6β)]-6-[[[(2-ethoxy-1-naphthyl)carbonyl]amino]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate	985-16-0	TWA	0.7 mg/m <sup>3</sup> (OEB 2)	Internal
Dihydrostreptomycin sulphate	5490-27-7	TWA	0.4 mg/m <sup>3</sup> (OEB 2)	
Further information: OTO				
		Wipe limit	Not required	
Fatty acids, C14-26, aluminum salts	97404-28-9	TWA (Respirable particulate matter)	1 mg/m <sup>3</sup> (Aluminium)	ACGIH

**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 recommended guidelines, use respiratory protection.  
**Filter type** : Combined particulates and organic vapour type  
**Eye/face 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.

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version 2.7      Revision Date: 2023/09/30      SDS Number: 7213849-00009      Date of last issue: 2023/04/04  
Date of first issue: 2020/10/30

---

Hand protection  
Material : Chemical-resistant gloves

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.  
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.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : suspension

Colour : white to off-white

Odour : No data available

Odour Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Initial boiling point and boiling range : No data available

Flash point : No data available

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Flammability (liquids) : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : No data available

Relative vapour density : No data available

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/04/04
2.7	2023/09/30	7213849-00009	Date of first issue: 2020/10/30

---

Relative density	:	No data available
Density	:	No data available
Solubility(ies)	:	
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, dynamic	:	300 - 16,000 mPa.s
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available
Particle size	:	Not applicable

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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

Exposure routes	:	Inhalation Skin contact Ingestion Eye contact
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#### Acute toxicity

Not classified based on available information.



# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version 2.7      Revision Date: 2023/09/30      SDS Number: 7213849-00009      Date of last issue: 2023/04/04  
Date of first issue: 2020/10/30

---

### Components:

#### **Paraffin oil:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

#### **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 [2S-(2 $\alpha$ ,5 $\alpha$ ,6 $\beta$ )]-6-[(2-ethoxy-1-naphthyl)carbonyl]amino]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate:**

Acute oral toxicity : LDLo (Rat): > 5,000 mg/kg  
Acute toxicity (other routes of administration) : LD50 (Dog): 633 mg/kg  
Application Route: Intravenous  
LD50 (Mouse): 1,000 mg/kg  
Application Route: Intravenous  
LD50 (Rat): 1,100 mg/kg  
Application Route: Intravenous  
LD50 (Rat): 2,800 mg/kg  
Application Route: Intramuscular  
LD50 (Rat): 1,200 mg/kg  
Application Route: Intraperitoneal

#### **Dihydrostreptomycin sulphate:**

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

#### **Fatty acids, C14-26, aluminum salts:**

Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg  
Method: OECD Test Guideline 423

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version 2.7      Revision Date: 2023/09/30      SDS Number: 7213849-00009      Date of last issue: 2023/04/04  
Date of first issue: 2020/10/30

---

Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 5.15 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Remarks: Based on data from similar materials

### Skin corrosion/irritation

Not classified based on available information.

#### Components:

##### Paraffin oil:

Species : Rabbit  
Result : No skin irritation

##### Fatty acids, C14-26, aluminum salts:

Species : reconstructed human epidermis (RhE)  
Method : OECD Test Guideline 431  
Remarks : Based on data from similar materials

Species : reconstructed human epidermis (RhE)  
Method : OECD Test Guideline 439  
Remarks : Based on data from similar materials

Result : No skin irritation

### Serious eye damage/eye irritation

Not classified based on available information.

#### Components:

##### Paraffin oil:

Species : Rabbit  
Result : No eye irritation

##### Fatty acids, C14-26, aluminum salts:

Species : Rabbit  
Result : No eye irritation  
Method : OECD Test Guideline 405  
Remarks : Based on data from similar materials

### Respiratory or skin sensitisation

#### Skin sensitisation

May cause an allergic skin reaction.

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version 2.7      Revision Date: 2023/09/30      SDS Number: 7213849-00009      Date of last issue: 2023/04/04  
Date of first issue: 2020/10/30

---

### 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.

##### **Fatty acids, C14-26, aluminum salts:**

Test Type : Local lymph node assay (LLNA)  
Exposure routes : Skin contact  
Species : Mouse  
Method : OECD Test Guideline 429  
Result : negative  
Remarks : Based on data from similar materials

### Germ cell mutagenicity

Not classified based on available information.

#### Components:

##### **Benzylpenicillin:**

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

##### **Sodium [2S-(2 $\alpha$ ,5 $\alpha$ ,6 $\beta$ )]-6-[[2-ethoxy-1-naphthyl]carbonyl]amino]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate:**

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

##### **Dihydrostreptomycin sulphate:**

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

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version 2.7      Revision Date: 2023/09/30      SDS Number: 7213849-00009      Date of last issue: 2023/04/04  
Date of first issue: 2020/10/30

---

### Fatty acids, C14-26, aluminum salts:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative  
Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative  
Remarks: Based on data from similar materials

### Carcinogenicity

Not classified based on available information.

### Components:

#### Sodium [2S-(2 $\alpha$ ,5 $\alpha$ ,6 $\beta$ )]-6-[[[(2-ethoxy-1-naphthyl)carbonyl]amino]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate:

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

### 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:

#### 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

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/04/04
2.7	2023/09/30	7213849-00009	Date of first issue: 2020/10/30

---

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 [2S-(2 $\alpha$ ,5 $\alpha$ ,6 $\beta$ )]-6-[[[(2-ethoxy-1-naphthyl)carbonyl]amino]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate:**

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 4,000 mg/kg body weight  
Developmental Toxicity: NOAEL: 4,000 mg/kg body weight  
Symptoms: No foetal abnormalities, No maternal effects

### **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.

### **Fatty acids, C14-26, aluminum salts:**

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

Effects on foetal development : Test Type: Reproduction/Developmental toxicity screening test  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 414

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version 2.7      Revision Date: 2023/09/30      SDS Number: 7213849-00009      Date of last issue: 2023/04/04  
Date of first issue: 2020/10/30

---

Result: negative  
Remarks: Based on data from similar materials

### STOT - single exposure

Not classified based on available information.

### STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

### Components:

#### Dihydrostreptomycin sulphate:

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

### Repeated dose toxicity

### Components:

#### Paraffin oil:

Species : Rat, female  
LOAEL : 161 mg/kg  
Application Route : Ingestion  
Exposure time : 90 Days

#### 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

#### Fatty acids, C14-26, aluminum salts:

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/04/04
2.7	2023/09/30	7213849-00009	Date of first issue: 2020/10/30

---

Species : Rat  
: >= 1000 mg/kg  
Application Route : Ingestion  
Exposure time : 42 Days  
Remarks : Based on data from similar materials

### Aspiration toxicity

May be fatal if swallowed and enters airways.

### Components:

#### Paraffin oil:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

### Experience with human exposure

### Components:

#### Benzylpenicillin:

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

#### Sodium [2S-(2 $\alpha$ ,5 $\alpha$ ,6 $\beta$ )]-6-[[2-ethoxy-1-naphthyl]carbonyl]amino]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate:

Skin contact : Target Organs: Skin  
Symptoms: Dermatitis  
Target Organs: Respiratory system  
Symptoms: Sensitisation  
Ingestion : Target Organs: Gastrointestinal tract  
Symptoms: Diarrhoea  
Target Organs: Respiratory system  
Symptoms: anaphylaxis  
Target Organs: Kidney  
Symptoms: nephritis  
Target Organs: Liver  
Symptoms: Damage

#### Dihydrostreptomycin sulphate:

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

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## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

### Components:

#### Paraffin oil:

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version 2.7      Revision Date: 2023/09/30      SDS Number: 7213849-00009      Date of last issue: 2023/04/04  
Date of first issue: 2020/10/30

---

Toxicity to fish : LL50 (Scophthalmus maximus (turbot)): > 100 mg/l  
Exposure time: 96 h  
Test substance: Water Accommodated Fraction  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EL50 (Acartia tonsa (Calanoid copepod)): > 100 mg/l  
Exposure time: 48 h  
Test substance: Water Accommodated Fraction  
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EL50 (Skeletonema costatum (marine diatom)): > 100 mg/l  
Exposure time: 72 h  
Test substance: Water Accommodated Fraction  
Remarks: Based on data from similar materials

NOELR (Skeletonema costatum (marine diatom)): > 1 mg/l  
Exposure time: 72 h  
Test substance: Water Accommodated Fraction  
Remarks: Based on data from similar materials

### **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



# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/04/04
2.7	2023/09/30	7213849-00009	Date of first issue: 2020/10/30

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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

### Persistence and degradability

#### Components:

##### **Benzylpenicillin:**

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

##### **Fatty acids, C14-26, aluminum salts:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 81.2 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B  
Remarks: Based on data from similar materials

### Bioaccumulative potential

#### Components:

##### **Paraffin oil:**

Partition coefficient: n-octanol/water : log Pow: > 4  
Remarks: Calculation

##### **Fatty acids, C14-26, aluminum salts:**

Partition coefficient: n-octanol/water : log Pow: > 7  
Remarks: Calculation

### Mobility in soil

No data available

### Other adverse effects

No data available

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/04/04
2.7	2023/09/30	7213849-00009	Date of first issue: 2020/10/30

### 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

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

##### GB 6944/12268

UN number	:	Not applicable
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# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/04/04
2.7	2023/09/30	7213849-00009	Date of first issue: 2020/10/30

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

### Special precautions for user

Not applicable

## 15. REGULATORY INFORMATION

### National regulatory information

#### Law on the Prevention and Control of Occupational Diseases

#### Yangtze River Protection Law

This product does not contain any dangerous chemicals prohibited for inland river transport.

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

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

## 16. OTHER INFORMATION

Revision Date : 2023/09/30

### 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/>

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

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Benzylpenicillin / Dihydrostreptomycin Sulphate / Nafcillin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/04/04
2.7	2023/09/30	7213849-00009	Date of first issue: 2020/10/30

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- 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 - 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

### Disclaimer

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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