SAFETY DATA SHEET

Benzylpenicillin / Streptomycin Sulphate / Procaine Hydrochloride / Piroxicam Liquid Formulation

Version 6.5  Revision Date: 04/04/2023  SDS Number: 244987-00022  Date of last issue: 12/16/2022  Date of first issue: 02/13/2018

SECTION 1. IDENTIFICATION

Product name : Benzylpenicillin / Streptomycin Sulphate / Procaine Hydrochloride / Piroxicam Liquid Formulation

Other means of identification : No data available

Manufacturer or supplier's details
Company name of supplier : Merck & Co., Inc
Address : 126 E. Lincoln Avenue
          Rahway, New Jersey U.S.A. 07065
Telephone : 908-740-4000
Emergency telephone : 1-908-423-6000
E-mail address : EHSDATASTEEWARD@merck.com

Recommended use of the chemical and restrictions on use
Recommended use : Veterinary product
Restrictions on use : Not applicable

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Eye irritation : Category 2B
Respiratory sensitization : Sub-category 1A
Skin sensitization : Category 1
Reproductive toxicity : Category 1A
Specific target organ toxicity - single exposure : Category 1 (Nervous system, Heart)
Specific target organ toxicity - repeated exposure : Category 1 (Kidney, inner ear, Gastrointestinal tract)

GHS label elements
Hazard pictograms :

Signal Word : Danger
Hazard Statements : H317 May cause an allergic skin reaction. H320 Causes eye irritation. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Precautionary Statements:

**Prevention:**
- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe mist or vapors.
- 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.
- P280 Wear protective gloves, protective clothing, eye protection and face protection.
- 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.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308 + P311 IF exposed or concerned: Call a doctor.
- P333 + P313 IF skin irritation or rash occurs: Get medical attention.
- P337 + P313 IF eye irritation persists: Get medical attention.
- P342 + P311 IF experiencing respiratory symptoms: Call a doctor.
- P362 + P364 Take off contaminated clothing and wash it before reuse.

**Storage:**
- P405 Store locked up.

**Disposal:**
- P501 Dispose of contents and container to an approved waste disposal plant.

**Other hazards**
None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Substance / Mixture:** Mixture

**Components**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common Name/Synonym</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzylpenicillin</td>
<td>No data available</td>
<td>61-33-6</td>
<td>18.33</td>
</tr>
</tbody>
</table>
SECTION 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 : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention.

If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention.
Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).
May cause an allergic skin reaction.
Causes eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May damage fertility or the unborn child.
Causes damage to organs.
Causes damage to organs through prolonged or repeated exposure.

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.
**SAFETY DATA SHEET**

**Benzylpenicillin / Streptomycin Sulphate / Procaine Hydrochloride / Piroxicam Liquid Formulation**

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue</th>
<th>Date of first issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5</td>
<td>04/04/2023</td>
<td>2449587-00022</td>
<td>12/16/2022</td>
<td>02/13/2018</td>
</tr>
</tbody>
</table>

- **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
  - Nitrogen oxides (NOx)
  - Sulfur oxides
  - Oxides of phosphorus
  - 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 fire-fighters**: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

### SECTION 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 diking or other appropriate containment to keep material from spreading. If diked 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.

### SECTION 7. HANDLING AND STORAGE
Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.

Advice on safe handling : Do not get on skin or clothing. Do not breathe mist or vapors. Do not swallow. Do not get in 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 sensitized individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitizers. Do not eat, drink or smoke when using this product. Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage : Keep in properly labeled containers. Store locked up. Keep tightly closed. Store in accordance with the particular national regulations.


SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzylpenicillin</td>
<td>61-33-6</td>
<td>TWA</td>
<td>Internal</td>
<td>600 µg/m³ (OEB 2)</td>
</tr>
<tr>
<td>Streptomycin sulphate</td>
<td>3810-74-0</td>
<td>TWA</td>
<td>Internal</td>
<td>OEB 2 (≥ 100 &lt; 1,000 µg/m³)</td>
</tr>
<tr>
<td>Procaine hydrochloride</td>
<td>51-05-8</td>
<td>TWA</td>
<td>Internal</td>
<td>60 µg/m³ (OEB 3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>Internal</td>
<td>600 µg/100 cm²</td>
</tr>
<tr>
<td>Piroxicam</td>
<td>36322-90-4</td>
<td>TWA</td>
<td>Internal</td>
<td>100 µg/m³ (OEB 2)</td>
</tr>
</tbody>
</table>

Further information: RSEN, DSEN, Wipe limit

Engineering measures : Use appropriate engineering controls and manufacturing.
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**: Particulates type

**Hand protection**
- **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.
- **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.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Color</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
</tbody>
</table>
### 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

### Vapor pressure
- No data available

### Relative vapor density
- No data available

### Relative density
- No data available

### Density
- No data available

### Solubility(ies)
- Water solubility: No data available

### Partition coefficient: n-octanol/water
- Not applicable

### Autoignition temperature
- No data available

### Decomposition temperature
- No data available

### Viscosity
- 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

### SECTION 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**: No hazardous decomposition products are known.
SECTION 11. TOXICOLOGICAL INFORMATION

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

Acute toxicity
Not classified based on available information.

Product:
Acute oral toxicity: Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Components:

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

Streptomycin sulphate:
Acute oral toxicity: LD50 (Hamster): 400 mg/kg
LD50 (Rat): 430 mg/kg
LD50 (Mouse): 25,000 mg/kg

Acute toxicity (other routes of administration): LD50 (Mouse): 85 - 111 mg/kg
Application Route: Intravenous
LD50 (Mouse): 575 - 610 mg/kg
Application Route: Intraperitoneal
LD50 (Mouse): 500 - 600 mg/kg
Application Route: Subcutaneous
TDLo (Dog): 220 - 440 mg/kg
Application Route: Intravenous
Symptoms: Lowered blood pressure
LDLo (Monkey): 110 mg/kg
**Application Route:** Intravenous

**TDLo (Monkey):** 30 - 70 mg/kg

**Symptoms:** respiratory depression

### Procaine hydrochloride:

**Acute oral toxicity**
- LD50 (Rat): 200 mg/kg
- LD50 (Mouse): 350 mg/kg

**Acute toxicity (other routes of administration)**
- LD50 (Rat): 43 mg/kg (Intravenous)
- LD50 (Mouse): 33 mg/kg (Intravenous)
- LD50 (Dog): 33 mg/kg (Intravenous)

### Piroxicam:

**Acute oral toxicity**
- LD50 (Rat): 216 mg/kg
- LD50 (Dog): 108 mg/kg
- LD50 (Hamster): 170 mg/kg
- LD50 (Guinea pig): 388 mg/kg
- LD50 (Monkey): 1,000 mg/kg

**Acute dermal toxicity**
- LD50 (Rat): > 5,000 mg/kg

### Skin corrosion/irritation
Not classified based on available information.

### Serious eye damage/eye irritation
Causes eye irritation.

### Components:

**Streptomycin sulphate:**
- **Result:** Mild eye irritation

**Procaine hydrochloride:**
- **Result:** Moderate eye irritation
Respiratory or skin sensitization

Skin sensitization
May cause an allergic skin reaction.

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

Components:

**Benzylpenicillin:**
- **Test Type:** Local lymph node assay (LLNA)
- **Routes of exposure:** Dermal
- **Species:** Mouse
- **Result:** Weak sensitizer

**Streptomycin sulphate:**
- **Test Type:** Human repeat insult patch test (HRIPT)
- **Routes of exposure:** Dermal
- **Species:** Humans
- **Result:** Weak sensitizer

**Procaine hydrochloride:**
- **Routes of exposure:** Dermal
- **Result:** Sensitizer
- **Remarks:** Based on human experience. 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.

**Streptomycin sulphate:**
- **Genotoxicity in vitro:** Test Type: Chromosomal aberration
  - **Result:** equivocal
**SAFETY DATA SHEET**

**Benzylpenicillin / Streptomycin Sulphate / Procaine Hydrochloride / Piroxicam Liquid**

**Formulation**

---

**Genotoxicity in vivo**
- Test Type: Chromosomal aberration
- Cell type: Human lymphocytes
- Result: negative

**Procaine hydrochloride:**
- Test Type: Bacterial reverse mutation assay (AMES)
- Result: equivocal

**Piroxicam:**
- Test Type: sister chromatid exchange assay
- Species: Humans
- Cell type: Human lymphocytes
- Result: negative

**Carcinogenicity**
Not classified based on available information.

**Components:**

**Streptomycin sulphate:**
- Species: Rat
- Application Route: Oral
- NOAEL: 5 mg/kg body weight
- Result: negative

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

**Reproductive toxicity**
May damage fertility or the unborn child.

**Components:**

**Benzylpenicillin:**
- 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 fetal development: Test Type: Development
- Species: Mouse
- Result: No effects on fetal development.
Test Type: Development
Species: Rat
Result: No effects on fetal development.

Test Type: Development
Species: Rabbit
Result: No effects on fetal development.

**Streptomycin sulphate:**

Effects on fertility

- Test Type: Fertility
- Species: Rat
- Application Route: Intraperitoneal
- Fertility: LOAEL: 40 mg/kg body weight
- Symptons: male reproductive effects

Effects on fetal development

- Test Type: Development
- Species: Mouse
- Application Route: Intraperitoneal
- Developmental Toxicity: LOAEL: 250 mg/kg body weight
- Symptoms: fetal deafness, Embryo-fetal toxicity.

- Test Type: Development
- Species: Rabbit
- Application Route: Oral
- Developmental Toxicity: NOAEL: 10 mg/kg body weight
- Result: No teratogenic effects.

Reproductive toxicity - Assessment: May damage the unborn child.

**Procaine hydrochloride:**

Reproductive toxicity - Assessment: May damage the unborn child.

**Piroxicam:**

Effects on fetal development

- Test Type: Development
- Species: Rat
- Application Route: Oral
- Developmental Toxicity: LOAEL: 10 mg/kg body weight
- Result: Embryo-fetal toxicity., No teratogenic effects., Fetal growth retardation

- Test Type: Development
- Species: Rat
- Application Route: Oral
- Developmental Toxicity: LOAEL: 30 mg/kg body weight
- Symptoms: Fetal mortality.
- Result: Embryo-fetal toxicity., No teratogenic effects., Fetal growth retardation
- Remarks: Maternal toxicity observed.

Test Type: Development
Species: Rat  
Application Route: Oral  
Developmental Toxicity: LOAEL: 0.4 - 4 mg/kg body weight  
Result: Effects on fetal development.

Test Type: Development  
Species: Rabbit  
Application Route: Oral  
Developmental Toxicity: NOAEL: 10 mg/kg body weight  
Result: No embryo-fetal toxicity.

Reproductive toxicity - Assessment  
Species: Suspected of damaging the unborn child.

STOT-single exposure  
Causes damage to organs (Nervous system, Heart).

Components:

Procaine hydrochloride:
Target Organs: Nervous system, Heart  
Assessment: Causes damage to organs.

STOT-repeated exposure  
Causes damage to organs (Kidney, inner ear, Gastrointestinal tract) through prolonged or repeated exposure.

Components:

Streptomycin sulphate:
Target Organs: Kidney, inner ear  
Assessment: Causes damage to organs through prolonged or repeated exposure.

Piroxicam:
Target Organs: Gastrointestinal tract  
Assessment: Causes damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Streptomycin sulphate:
Species: Rat  
NOAEL: 100 mg/kg  
Application Route: Subcutaneous  
Exposure time: 72 Days  
Remarks: No significant adverse effects were reported

Species: Cat  
LOAEL: 200 mg/kg
**Application Route**: Oral  
**Exposure time**: 90 Days  
**Target Organs**: inner ear  

**Species**: Dog  
**LOAEL**: 44 mg/kg  
**Application Route**: Intramuscular  
**Exposure time**: 14 Days  
**Target Organs**: inner ear  

**Symptoms**: ataxia  

**Application Route**: Intramuscular  
**Exposure time**: 20 Days  
**Target Organs**: inner ear, Kidney  

**Species**: Dog  
**NOAEL**: 50 - 100 mg/kg  
**LOAEL**: 50 mg/kg  
**Application Route**: Intramuscular  
**Exposure time**: 5 Days  
**Target Organs**: Liver, Kidney  

**Species**: Rat  
**NOAEL**: 5 mg/kg  
**Application Route**: Oral  
**Exposure time**: 2 y  
**Remarks**: No significant adverse effects were reported  

**Species**: Monkey  
**LOAEL**: 25 mg/kg  
**Application Route**: Subcutaneous  
**Exposure time**: 66 Days  
**Target Organs**: Blood, Liver, Kidney  

**Symptoms**: anemia  

**Aspiration toxicity**  
Not classified based on available information.  

**Experience with human exposure**  

**Components:**  

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

**Streptomycin sulphate:**  
Inhalation  
Target Organs: inner ear  
Symptoms: hearing loss  
Target Organs: Kidney
**SAFETY DATA SHEET**

**Benzylpenicillin / Streptomycin Sulphate / Procaine Hydrochloride / Piroxicam Liquid Formulation**

**Version 6.5**
**Revision Date:** 04/04/2023
**SDS Number:** 2449587-00022
**Date of last issue:** 12/16/2022
**Date of first issue:** 02/13/2018

### Symptoms:
- **Skin contact:** Symptoms: hearing loss
- **Procaine hydrochloride:**
  - **Inhalation:** Target Organs: Central nervous system
    - Symptoms: nervousness, Dizziness, Convulsions, Breathing difficulties, Rash, Swelling of tissue, irregular heart beat
    - Remarks: May cause harm to the unborn child.
    - Based on clinical use
  - **Target Organs:** Heart
    - Symptoms: nervousness, Dizziness, Convulsions, Breathing difficulties, Rash, Swelling of tissue, irregular heart beat
    - Remarks: May cause harm to the unborn child.
    - Based on clinical use

### Piroxicam:
- **Ingestion:**
  - Target Organs: Gastrointestinal tract
  - Symptoms: Diarrhea, constipation, flatulence, Headache, Dizziness, tinnitus, skin rash, Ulceration, chest pain, Abdominal pain
  - Remarks: May cause harm to the unborn child.
  - Based on clinical use

### SECTION 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
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

Streptomycin sulphate:
Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 487 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants:
EC50 (Microcystis aeruginosa (blue-green algae)): 0.007 mg/l
Exposure time: 72 h
Method: ISO 8692

EC50 (Selenastrum capricornutum (green algae)): 0.133 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):
NOEC (Daphnia magna (Water flea)): 32 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

Procaine hydrochloride:
Ecotoxicology Assessment
Acute aquatic toxicity: Toxic effects cannot be excluded

Chronic aquatic toxicity: Toxic effects cannot be excluded

Piroxicam:
Ecotoxicology Assessment
Acute aquatic toxicity: Toxic effects cannot be excluded

Chronic aquatic toxicity: Toxic effects cannot be excluded

Persistence and degradability

Components:

Benzylpenicillin:
Biodegradability: Result: Readily biodegradable.
Biodegradation: 70.10 %
Exposure time: 28 d
Bioaccumulative potential

Components:

Streptomycin sulphate:
Partition coefficient: n-octanol/water: log Pow: -3.2

Procaine hydrochloride:
Partition coefficient: n-octanol/water: log Pow: 2.14

Mobility in soil
No data available

Other adverse effects
No data available

SECTION 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.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
UN number: UN 3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Benzylpenicillin, Streptomycin sulphate)

Class: 9
Packing group: III
Labels: 9

IATA-DGR
UN/ID No.: UN 3082
Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Benzylpenicillin, Streptomycin sulphate)

Class: 9
Packing group: III
Labels: Miscellaneous
Packing instruction (cargo aircraft): 964
Packing instruction (passen-
SAFETY DATA SHEET

Benzylpenicillin / Streptomycin Sulphate / Procaine Hydrochloride / Piroxicam Liquid Formulation

Version 6.5  Revision Date: 04/04/2023  SDS Number: 2449587-00022  Date of last issue: 12/16/2022  Date of first issue: 02/13/2018

ger aircraft)  
Environmentally hazardous : yes

IMDG-Code  
UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Benzylpenicillin, Streptomycin sulphate)

Class : 9  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation

TDG  
UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Benzylpenicillin, Streptomycin sulphate)

Class : 9  
Packing group : III  
Labels : 9  
ERG Code : 171  
Marine pollutant : yes(Benzylpenicillin, Streptomycin sulphate)

Special precautions for user
The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

The ingredients of this product are reported in the following inventories:
AICS : not determined  
DSL : not determined  
IECSC : not determined

SECTION 16. OTHER INFORMATION

Full text of other abbreviations
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 - 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


Revision Date: 04/04/2023
Date format: mm/dd/yyyy

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.

CA / Z8