SAFETY DATA SHEET
according to the Hazardous Products Regulations

Benzylpenicillin / Streptomycin Sulphate / Procaine Hydrochloride / Piroxicam Liquid Formulation

Version 6.6 Revision Date: 09/30/2023 SDS Number: 2449587-00023 Date of last issue: 04/04/2023

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: EHSDATASTEWARD@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.
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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
SAFETY DATA SHEET
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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>
<tr>
<td>Streptomycin sulphate</td>
<td>No data available</td>
<td>3810-74-0</td>
<td>10.5</td>
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<tr>
<td>Procaine hydrochloride</td>
<td>No data available</td>
<td>51-05-8</td>
<td>2</td>
</tr>
<tr>
<td>Piroxicam</td>
<td>No data available</td>
<td>36322-90-4</td>
<td>1</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: 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. 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.
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Notes to physician: Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

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

Unsuitable extinguishing media:
None known.

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

Hazardous combustion products:
- Carbon oxides
- 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...
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.

Materials to avoid:
- Do not store with the following product types:
  - Strong oxidizing agents
  - Self-reactive substances and mixtures
  - Organic peroxides
  - Explosives
  - Gases

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>600 µg/m3 (OEB 2)</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>100 µg/100 cm&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Internal</td>
</tr>
</tbody>
</table>
Streptomycin sulphate 3810-74-0 TWA OEB 2 (>= 100 < 1,000 µg/m³) Internal
Further information: DSEN
Procaine hydrochloride 51-05-8 TWA 60 µg/m³ (OEB 3) Internal
Wipe limit 600 µg/100 cm² Internal
Piroxicam 36322-90-4 TWA 100 µg/m³ (OEB 2) Internal

Engineering measures: Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less quick connections).
All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.
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

Appearance: liquid
Color: No data available
Odor: No data available
Odor 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
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
## Particulate Size
- **Not applicable**

### SECTION 10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Reactivity</th>
<th>Not classified as a reactivity hazard.</th>
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</thead>
<tbody>
<tr>
<td>Chemical stability</td>
<td>Stable under normal conditions.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>Can react with strong oxidizing agents.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>None known.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>Oxidizing agents</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>No hazardous decomposition products are known.</td>
</tr>
</tbody>
</table>

### 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
Application Route: Subcutaneous 
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
Application Route: Intravenous 
LD50 (Mouse): 33 mg/kg
Application Route: Intravenous 
LD50 (Dog): 33 mg/kg
Application Route: 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.
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**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

Test Type: Maximization Test
Routes of exposure: Dermal
Species: Guinea pig
Result: positive
Remarks: Based on data from similar materials

Result: Strong sensitizer
Remarks: Based on human experience.

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

**Procaine hydrochloride:**
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
Result: equivocal

**Piroxicam:**
Genotoxicity in vivo: 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:**
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 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.

Species: Mouse  
Result: No effects on fertility.

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

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 : 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

#### Species: Dog
- LOAEL: 50 - 100 mg/kg
- Application Route: Intramuscular
- Exposure time: 20 Days
- Target Organs: inner ear, Kidney
- Symptoms: ataxia

#### Species: Monkey
- NOAEL: 50 mg/kg
- LOAEL: 100 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
Symptoms: hearing loss
Skin contact : Symptoms: skin rash

**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

**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
<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>
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<tbody>
<tr>
<td>6.6</td>
<td>09/30/2023</td>
<td>2449587-00023</td>
<td>04/04/2023</td>
<td>02/13/2018</td>
</tr>
</tbody>
</table>

### Toxicity to Daphnia and Other Aquatic Invertebrates

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50 (Daphnia magna (Water flea)):</th>
<th>Exposure time:</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzylpenicillin</td>
<td>3.6 mg/l</td>
<td>48 hrs</td>
<td>OECD Test Guideline 202</td>
</tr>
<tr>
<td>Procaine Hydrochloride</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piroxicam Liquid</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Toxicity to Algae/Aquatic Plants

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50 (Raphidocelis subcapitata (freshwater green alga)):</th>
<th>Exposure time:</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streptomycin Sulphate</td>
<td>&gt; 100 mg/l</td>
<td>72 hrs</td>
<td>OECD Test Guideline 201</td>
</tr>
<tr>
<td></td>
<td>NOEC (Raphidocelis subcapitata (freshwater green alga)):</td>
<td>72 hrs</td>
<td>OECD Test Guideline 201</td>
</tr>
<tr>
<td></td>
<td>EC50 (blue-green algae):</td>
<td>72 hrs</td>
<td>OECD Test Guideline 201</td>
</tr>
<tr>
<td></td>
<td>NOEC (blue-green algae):</td>
<td>72 hrs</td>
<td>OECD Test Guideline 201</td>
</tr>
</tbody>
</table>

### Toxicity to Microorganisms

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50:</th>
<th>Exposure time:</th>
<th>Test Type:</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzylpenicillin</td>
<td>&gt; 500</td>
<td>3 h</td>
<td>Respiration inhibition</td>
<td>OECD Test Guideline 209</td>
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<tr>
<td>Procaine Hydrochloride</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Piroxicam Liquid</td>
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### Streptomycin Sulphate

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50 (Daphnia magna (Water flea)):</th>
<th>Exposure time:</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>487 mg/l</td>
<td>48 h</td>
<td>OECD Test Guideline 202</td>
</tr>
<tr>
<td>Toxicity to algae/aquatic plants</td>
<td>0.007 mg/l</td>
<td>72 h</td>
<td>ISO 8692</td>
</tr>
<tr>
<td></td>
<td>EC50 (Selenastrum capricornutum (green algae)):</td>
<td>72 h</td>
<td>OECD Test Guideline 201</td>
</tr>
</tbody>
</table>

### Toxicity to Daphnia and Other Aquatic Invertebrates (Chronic Toxicity)

<table>
<thead>
<tr>
<th>Substance</th>
<th>NOEC (Daphnia magna (Water flea)):</th>
<th>Exposure time:</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streptomycin Sulphate</td>
<td>32 mg/l</td>
<td>21 d</td>
<td>OECD Test Guideline 211</td>
</tr>
</tbody>
</table>
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
Method: OECD Test Guideline 301B

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 : 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.
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
- **Environmentally hazardous**: yes

**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 (passenger aircraft)**: 964
- **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
SAFETY DATA SHEET
according to the Hazardous Products Regulations

Benzylpenicillin / Streptomycin Sulphate / Procaine Hydrochloride / Piroxicam Liquid Formulation

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 - NoObserved (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 Sub-
SAFETY DATA SHEET
according to the Hazardous Products Regulations

Benzylpenicillin / Streptomycin Sulphate / Procaine Hydrochloride / Piroxicam Liquid
Formulation

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stances 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: 09/30/2023  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.

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