Section 1 - Product and Company Information

Product Name: Carbencillin disodium salt
Product Number: C1389
Brand: Sigma Chemical
Company: Sigma-Aldrich
Street Address: 3000 Spruce Street
City, State, Zip, Country: SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
Fax: 800 325 5052
Emergency Phone: 414 273 3850 Ext. 5996

Section 2 - Composition/Information on Ingredient

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS #</th>
<th>SARA 313</th>
<th>EC no</th>
<th>Annex I Index Number</th>
</tr>
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<tbody>
<tr>
<td>CARBENCILLIN DISODIUM</td>
<td>4800-14-6</td>
<td>No</td>
<td>225-369-8</td>
<td></td>
</tr>
</tbody>
</table>

Formula: C17H16N2Na2O26S
Synonyms: Anatabyl, BRL-2064, Carbexin, Carbencillin disodium salt, Carbonyloxypenicillin sodium, OP-16-622-2, Disodium carbencillin Disodium alpha-carboxybenzylpenicillin, Fugacillin, Geopen, Geopenin, Hyoper, Morocillin, NSC-111371, Popen, Pyopenyl, Pyopen, Sodium carbencillin

Section 3 - Hazards Identification

Emergency Overview
Harmful. May cause sensitization by inhalation and skin contact.

NMS Rating
Health: 3'
Flammability: 0
Reactivity: 0

NFPA Rating
Health: 3
Flammability: 0
Reactivity: 0

*additional chronic hazards present.
For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure
If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

Dermal Exposure
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A
Extinguishing Media
Suitable
Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting
Protective Equipment
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s)
Evits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s)
Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling
User Exposure
Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage
Suitable
Keep tightly closed. Store at 2-8°C

Section 8 - Exposure Controls / PPE

Engineering Controls
Mechanical exhaust required.

Personal Protective Equipment
Other
Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

General Hygiene Measures
Wash thoroughly after handling. Wash contaminated clothing before reuse.

Section 9 - Physical/Chemical Properties

Appearance
Physical State: Solid

Sigma Chemical - C1389
Sigma-Aldrich Corporation
www.sigma-aldrich.com
Section 10 - Stability and Reactivity

Stability: Stable.

Materials to Avoid: Oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

Route of Exposure:
- Skin Contact: May cause skin irritation.
- Skin Absorption: May be harmful if absorbed through the skin.
- Eye Contact: May cause eye irritation.
- Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion:
May be harmful if swallowed.

Sensitization:
- Respiratory: May cause allergic respiratory reaction.
- Skin: May cause allergic skin reaction.

Signs and Symptoms of Exposure:
Because of the similarity in structure of the penicillins and cephalosporines, those who are allergic to one class of agents may manifest cross-allergenicity when a member of the other class is encountered. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: ON9105000

Toxicity Data:
- Oral - Rat: >10000 mg/kg (LD50)
- Intraperitoneal - Rat: 10 GM/KG (LD50)
- Subcutaneous - Rat: >10 GM/KG (LD50)
- Intravenous - Rat: 6000 MG/KG (LD50)
- Oral - Mouse: >12000 mg/kg (LD50)
- Intraperitoneal - Mouse: 7600 MG/KG (LD50)
- Subcutaneous - Mouse: 9 GM/KG (LD50)
- Intravenous - Mouse: 4500 MG/KG (LD50)
- Intracerebral - Mouse: 9500 MG/KG (LD50)
- Subcutaneous - Dog: >4 GM/KG (LD50)
- Remarks: Gastrointestinal Nausea or vomiting.
- Intravenous - Dog: >4 GM/KG (LD50)
- Remarks: Gastrointestinal Nausea or vomiting.
- Intravenous - Monkey: 9800 MG/KG (LD50)
- Remarks: Sense Organs and Special Senses (Nose, Ear, and Taste); Eye; Elosis; Behavioral; Muscle contraction or spasticity; Lungs, Thorax, or Respiration; Dyspnea.
- Subcutaneous - Rabbit: >4 GM/KG (LD50)
- Remarks: Sense Organs and Special Senses (Nose, Ear, and Taste); Eye; Other.
- Intravenous - Rat/M: >4 GM/KG (LD50)
- Remarks: Sense Organs and Special Senses (Nose, Ear, and Taste); Eye; Other.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation:
Contact a licensed professional waste disposal service to dispose of this material. Dispose of or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
- Proper Shipping Name: None
- Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.
IATA  
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU Additional Classification  
Symbol of Danger: Xn
Indication of Danger: Harmful
Risk Statements
R: 42/43
May cause sensitization by inhalation and skin contact.
Safety Statements
S: 22 36/37
Do not breathe dust. Wear suitable protective clothing and gloves.

US Classification and Label Text  
Indication of Danger: Harmful
Risk Statements:
May cause sensitization by inhalation and skin contact.
Safety Statements:
Do not breathe dust. Wear suitable protective clothing and gloves.

United States Regulatory Information
SARA Listed: No

Canada Regulatory Information
WHMIS Classification:
This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: No
NDSL: No

Section 16 - Other Information

Disclaimer
For R&D use only. Not for drug, household or other uses.

Warranty
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.