Safety Data Sheet

Cat. # GD-6060

HP Ampicillin™ [1000X]

Size: 10 x 500µl
HP Ampicillin (1000X) Lyophilized
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 09/22/2016  Revision date: 05/11/2017  Version: 7.1

SECTION 1: Identification

1.1. Identification

Product form: Mixture
Product name: HP Ampicillin (1000X) Lyophilized
CAS-No.: 69-52-3
Product code: 357H
Formula: C16H18N3NaO4S
Synonyms:
- 4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-(2-amino-2-phenylacetamido)-3,3-dimethyl-7-oxo-, sodium salt, D(-)- / 4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-[(aminophenylacetyl)amino]-3,3-dimethyl-7-oxo-, monosodium salt, [2S-[2alpha,5alpha,6beta(S*)]] / Alpen-N / Ampicillin, natrium / ampicillin, sodium / Binotal sodium / Ciliteral / Citteral / D(-)-a-aminobenzylpenicillin sodium salt / D(-)-alpha-aminobenzylpenicillin sodium salt / Domicillin / monosodium (2S,5R,6R)-6-((R)-2-Amino-2-phenylacetamido)-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo(3.2.0)heptane-2-carboxylate / monosodium D(-)-6-(2-amino-2-phenylacetamido)-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo(3.2.0)heptane-2-carboxylate / Omnipen-N / PEN A/N / Penbritin-S / Penialmen / Polycillin / Polycillin-N / Principen/N / sodium [2S-[2alpha,5alpha,6beta(S*)]]-6-[(aminophenylacetylamo)-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo(3.2.0)heptane-2-carboxylate / sodium ampicillin / Sodium binotal / Sodium D(-)-alpha-aminobenzylpenicillin / Sodium P-50 / Totacillin / Totacillin N / Unasyn

BIG No: 42305

1.2. Recommended use and restrictions on use

Use of the substance/mixture: Chemical substance for research
Antibiotic

1.3. Supplier

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132-1429 - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification
Respiratory sensitization, Category 1 H334 May cause an allergy or asthma symptoms or breathing difficulties if inhaled
Skin sensitization, Category 1 H317 May cause an allergic skin reaction

Full text of H statements: see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling
Hazard pictograms (GHS US):

Signal word (GHS US): Danger
Hazard statements (GHS US):
- H317 - May cause an allergic skin reaction
- H334 - May cause an allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary statements (GHS US):
- P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
- P272 - Contaminated work clothing must not be allowed out of the workplace
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P284 - [In case of inadequate ventilation] wear respiratory protection.
- P302+P352 - If on skin: Wash with plenty of water
- P304+P341 - If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing
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P321 - Specific treatment (see supplemental first aid instruction on this label)
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P342+P311 - If experiencing respiratory symptoms: Call a poison center or doctor
P363 - Wash contaminated clothing before reuse.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification
No additional information available

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Common Name (Synonyms)</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
</table>

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures


First-aid measures after inhalation : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Wash immediately with lots of water. Take victim to a doctor if irritation persists.

First-aid measures after eye contact : Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.


4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Slightly irritant to skin. Slightly irritant to respiratory organs. Slightly irritant to eyes.

Symptoms/effects after inhalation : Slight irritation. ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Respiratory difficulties.

Symptoms/effects after skin contact : Slight irritation. ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation.

Symptoms/effects after eye contact : Slight irritation.


Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Respiratory difficulties. Skin rash/inflammation.
4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


5.2. Specific hazards arising from the chemical

Fire hazard: DIRECT FIRE HAZARD: Most organic solids may burn if strongly heated. In finely divided state: increased fire hazard. INDIRECT FIRE HAZARD: Heating increases the fire hazard.

Explosion hazard: DIRECT EXPLOSION HAZARD: Most organic solids are liable to dust explosion hazard. INDIRECT EXPLOSION HAZARD: Dust cloud can be ignited by a spark.

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions: Dilute toxic gases with water spray.


SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel


Emergency procedures: Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes.

Measures in case of dust release: In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment: Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. Powdered form: no compressed air for pumping over spills.

Methods for cleaning up: Stop dust cloud by humidifying with water. Scoop solid spill into closing containers. Powdered: do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Avoid raising dust. Keep away from naked flames/heat. Finely divided: keep away from ignition sources/sparks. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Powdered form: no compressed air for pumping over. Keep container tightly closed.

Hygiene measures: Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a well-ventilated place. Keep cool.

Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
Information on mixed storage: KEEP SUBSTANCE AWAY FROM: oxidizing agents. moisture.
Storage area: Store in a cool area. Keep container in a well-ventilated place. Meet the legal requirements.
Special rules on packaging: SPECIAL REQUIREMENTS: closing. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

### HP Ampicillin (1000X) Lyophilized (69-52-3)
No additional information available

### Carbenicillin disodium salt (4800-94-6)
No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls: Ensure good ventilation of the work station.

Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

**Hand protection:**

Gloves

**Eye protection:**

Face shield. In case of dust production: protective goggles

**Skin and body protection:**

Protective clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing

**Respiratory protection:**

Dust production: dust mask with filter type P3. High dust production: self-contained breathing apparatus

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Crystalline solid. Crystalline powder.</td>
</tr>
<tr>
<td>Color</td>
<td>White to off-white</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>8.0 - 10 (1.0 %)</td>
</tr>
<tr>
<td>Melting point</td>
<td>215 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>371.42 g/mol</td>
</tr>
<tr>
<td>Solubility</td>
<td>Moderately soluble in water.</td>
</tr>
<tr>
<td>Water: 5.0 g/100ml</td>
<td></td>
</tr>
<tr>
<td>Log Pow</td>
<td>-3.41 (Estimated value)</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>215 °C</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
</tbody>
</table>


**Viscosity, dynamic** : No data available

**Explosion limits** : Not applicable

**Explosive properties** : No data available

**Oxidizing properties** : No data available

### 9.2. Other information

**VOC content** : 0 %

**Other properties** : Basic reaction.

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Hazardous decomposition products.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

**Acute toxicity (oral)** : Not classified

**Acute toxicity (dermal)** : Not classified

**Acute toxicity (inhalation)** : Not classified

**HP Ampicillin (1000X) Lyophilized (69-52-3)**

| LD50 oral rat | > 5314 mg/kg (Rat, Oral) |

**Carbenicillin disodium salt (4800-94-6)**

| LD50 oral rat | > 10000 mg/kg (Rat, Oral) |
| LD50 dermal rat | > 10000 mg/kg (Rat, Dermal) |

**Skin corrosion/irritation** : Not classified

| pH: 8.0 - 10 (1.0 %) |

**Serious eye damage/irritation** : Not classified

| pH: 8.0 - 10 (1.0 %) |

**Respiratory or skin sensitization** : May cause an allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

**Germ cell mutagenicity** : Not classified

**Carcinogenicity** : Not classified

**Reproductive toxicity** : Not classified

**Specific target organ toxicity – single exposure** : Not classified

**Specific target organ toxicity – repeated exposure** : Not classified

**Aspiration hazard** : Not classified

**Viscosity, kinematic** : No data available

**Potential Adverse human health effects and symptoms** : Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Slightly irritant to skin. Slightly irritant to respiratory organs. Slightly irritant to eyes.

**Symptoms/effects after inhalation** : Slight irritation. ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Respiratory difficulties.
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Symptoms/effects after skin contact: Slight irritation. ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation.

Symptoms/effects after eye contact: Slight irritation.


Chronic symptoms: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Respiratory difficulties. Skin rash/inflammation.

SECTION 12: Ecological information

12.1. Toxicty

Ecology - general: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Ecology - air: Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water: Water pollutant (surface water). No data available on ecotoxicity.

12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Product</th>
<th>Persistence and degradability</th>
<th>Biodegradability in water: no data available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP Ampicillin (1000X) Lyophilized (69-52-3)</td>
<td>Persistence and degradability</td>
<td></td>
</tr>
<tr>
<td>Carbenicillin disodium salt (4800-94-6)</td>
<td>Persistence and degradability</td>
<td></td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product</th>
<th>Bioaccumulative potential</th>
<th>Log Pow</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP Ampicillin (1000X) Lyophilized (69-52-3)</td>
<td>Bioaccumulative potential</td>
<td>-3.41 (Estimated value)</td>
<td>Not bioaccumulative.</td>
</tr>
<tr>
<td>Carbenicillin disodium salt (4800-94-6)</td>
<td>Bioaccumulative potential</td>
<td>No bioaccumulation data available.</td>
<td></td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods


Product/Packaging disposal recommendations: Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery.


SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not applicable

Transportation of Dangerous Goods

Not applicable
Transport by sea
Not applicable

Air transport
Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations
Carbenicillin disodium salt (4800-94-6)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

EU-Regulations

National regulations
No additional information available

15.3. US State regulations

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 05/11/2017

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H-phrases</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction</td>
</tr>
<tr>
<td>H334</td>
<td>May cause an allergy or asthma symptoms or breathing difficulties if inhaled</td>
</tr>
</tbody>
</table>

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.