SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade name</td>
<td>CARBENICILLIN, DISODIUM SALT</td>
</tr>
<tr>
<td>CAS No</td>
<td>4800-94-6</td>
</tr>
<tr>
<td>Product code</td>
<td>AB00285</td>
</tr>
<tr>
<td>Formula</td>
<td>C17H16N2Na2O6S</td>
</tr>
</tbody>
</table>

1.2. Relevant identified uses of the substance or mixture and uses advised against

<table>
<thead>
<tr>
<th>Use of the substance/mixture</th>
<th>Laboratory use/Manufacturing component/Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of the substance/mixture</td>
<td>No data available</td>
</tr>
</tbody>
</table>

1.3. Details of the supplier of the safety data sheet

AmericanBio, Inc.
15 Erie Dr.
Natick, MA 01760 - USA
T 800.443.0600 - F 508.655.2754
info@americanbio.com - www.americanbio.com

1.4. Emergency telephone number

| Emergency number | 855.835.2572 (U.S.) :: 760.602.8703 (Outside U.S.) |

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)
Not classified

2.2. Label elements

GHS-US labeling
No labeling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARBENICILLIN, DISODIUM SALT (Main constituent)</td>
<td>(CAS No) 4800-94-6</td>
<td>100</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

First-aid measures after inhalation
Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service. Assure fresh air breathing. Allow the victim to rest.
### First-aid measures after skin contact
Wash immediately with lots of water. Take victim to a doctor if irritation persists. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

### First-aid measures after eye contact
Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

### First-aid measures after ingestion

### 4.2 Most important symptoms and effects, both acute and delayed

<table>
<thead>
<tr>
<th>Symptoms/injuries</th>
<th>Not expected to present a significant hazard under anticipated conditions of normal use.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms/injuries after eye contact</td>
<td>Slight irritation.</td>
</tr>
<tr>
<td>Chronic symptoms</td>
<td>ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Respiratory difficulties. Skin rash/inflammation.</td>
</tr>
</tbody>
</table>

### 4.3 Indication of any immediate medical attention and special treatment needed
No additional information available

**SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsuitable extinguishing media</td>
<td>No unsuitable extinguishing media known. Do not use a heavy water stream.</td>
</tr>
</tbody>
</table>

#### 5.2 Special hazards arising from the substance or mixture

<table>
<thead>
<tr>
<th>Fire hazard</th>
<th>DIRECT FIRE HAZARD. No data available on direct fire hazard. INDIRECT FIRE HAZARD. No data available on indirect fire hazard.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explosion hazard</td>
<td>DIRECT EXPLOSION HAZARD. No data available on direct explosion hazard. INDIRECT EXPLOSION HAZARD. No data available on indirect explosion hazard.</td>
</tr>
<tr>
<td>Reactivity</td>
<td>On burning: release of toxic and corrosive gases/vapours (nitrous vapours, sulphur oxides, carbon monoxide - carbon dioxide).</td>
</tr>
</tbody>
</table>

#### 5.3 Advice for firefighters

<table>
<thead>
<tr>
<th>Precautionary measures fire</th>
<th>Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firefighting instructions</td>
<td>Dilute toxic gases with water spray. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.</td>
</tr>
<tr>
<td>Protection during firefighting</td>
<td>Heat/fire exposure: compressed air/oxygen apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.</td>
</tr>
</tbody>
</table>

**SECTION 6: Accidental release measures**

#### 6.1 Personal precautions, protective equipment and emergency procedures

<table>
<thead>
<tr>
<th>For non-emergency personnel</th>
<th>Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>For emergency responders</th>
<th>Equip cleanup crew with proper protection.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency procedures</td>
<td>Ventilate area.</td>
</tr>
</tbody>
</table>

#### 6.2 Environmental precautions
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3 Methods and material for containment and cleaning up

<table>
<thead>
<tr>
<th>For containment</th>
<th>Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methods for cleaning up</td>
<td>Stop dust cloud by covering with sand/earth. Scoop solid spill into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.</td>
</tr>
</tbody>
</table>
6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Comply with the legal requirements. Remove contaminated clothing immediately. Thoroughly clean/dry the installation before use. Avoid raising dust. Keep away from naked flames/heat. Observe very strict hygiene - avoid contact. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Keep only in the original container in a cool, well ventilated place away from: Direct sunlight. Keep container closed when not in use.
Incompatible products: Strong bases, strong acids.
Incompatible materials: Sources of ignition. Direct sunlight.
Storage temperature: 0 - 8 °C
Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources.
Prohibitions on mixed storage: KEEP SUBSTANCE AWAY FROM: water/moisture.
Storage area: Store in a cool area. Store in a dry area. Store in a dark area. Provide for a cooling system. May be stored under argon. Meet the legal requirements.
Special rules on packaging: SPECIAL REQUIREMENTS: closing. watertight. dry. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials: SUITABLE MATERIAL: No data available. MATERIAL TO AVOID: No data available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available

8.2. Exposure controls
Personal protective equipment: Avoid all unnecessary exposure.
Materials for protective clothing: GIVE EXCELLENT RESISTANCE: No data available. GIVE GOOD RESISTANCE: No data available. GIVE LESS RESISTANCE: No data available. GIVE POOR RESISTANCE: No data available.
Hand protection: Gloves. Wear protective gloves.
Eye protection: Face shield. In case of dust production: protective goggles. Chemical goggles or safety glasses.
Respiratory protection: Dust production: dust mask with filter type P2. Wear approved mask.
Other information: When using, do not eat, drink or smoke.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state: Solid
Molecular mass: 422.37 g/mol
Color: White.
Odor: Odourless.
Odor threshold: No data available
pH: No data available
Relative evaporation rate (butyl acetate=1): No data available
Melting point: No data available
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
CARBENICILLIN, DISODIUM SALT
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water. Soluble in ethanol. Water: soluble</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>9.2. Other information</td>
<td></td>
</tr>
<tr>
<td>VOC content</td>
<td>0 %</td>
</tr>
<tr>
<td>Other properties</td>
<td>Hygroscopic</td>
</tr>
</tbody>
</table>

SECTION 10: Stability and reactivity

10.1. Reactivity
On burning: release of toxic and corrosive gases/vapours (nitrous vapours, sulphur oxides, carbon monoxide - carbon dioxide).

10.2. Chemical stability

10.3. Possibility of hazardous reactions
Not established.

10.4. Conditions to avoid
Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials
strong acids. Strong bases.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>CARBENICILLIN, DISODIUM SALT (MF 4800-94-6)</td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 10000 mg/kg (Rat)</td>
</tr>
<tr>
<td>LD50 dermal rat</td>
<td>&gt; 10000 mg/kg (Rat)</td>
</tr>
<tr>
<td>Skin corrosion/irritiation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
Potential Adverse human health effects and symptoms: Based on available data, the classification criteria are not met.

Symptoms/injuries after eye contact: Slight irritation.

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

SECTION 12: Ecological information

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


12.2. Persistence and degradability
CARBENICILLIN, DISODIUM SALT (4800-94-6)
Persistence and degradability: Biodegradability in water: no data available. Not established.

12.3. Bioaccumulative potential
CARBENICILLIN, DISODIUM SALT (4800-94-6)
Bioaccumulative potential: No bioaccumulation data available. Not established.

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
Other information: Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste 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. Dissolve or mix with a combustible solvent. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Dispose in a safe manner in accordance with local/national regulations.

Additional information: Hazardous waste according to Directive 2008/98/EC.

Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT
No dangerous good in sense of transport regulations

Additional information
Other information: No supplementary information available.

ADR
Transport document description: UN N/A
Packing group (ADR): N/A
Hazard identification number (Kemler No.): N/A
Classification code (ADR): N/A

Transport by sea
No additional information available

Air transport
No additional information available
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
No additional information available

EU-Regulations
No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Resp. Sens. 1 H334
Skin Sens. 1 H317
Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC
R42
R43
Full text of R-phrases: see section 16

15.2.2. National regulations
No additional information available

15.3. US State regulations
No additional information available

SECTION 16: Other information

Other information : None.

SDS US (GHS HazCom 2012)

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