Section 1. Product and Company Identification

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Bleomycin A5 Hydrochloride</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product ID</td>
<td>B4517</td>
</tr>
<tr>
<td>Chemical Name (Synonyms)</td>
<td>Pingyangmycin hydrochloride</td>
</tr>
<tr>
<td>Supplier</td>
<td>LKT Laboratories, Inc</td>
</tr>
<tr>
<td></td>
<td>545 Phalen Blvd.</td>
</tr>
<tr>
<td></td>
<td>St. Paul, MN 55130 USA</td>
</tr>
<tr>
<td></td>
<td>Ph: 651-644-8424 Fax: 651-644-8357</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.lktlabs.com">www.lktlabs.com</a> - <a href="mailto:getinfo@lktlabs.com">getinfo@lktlabs.com</a></td>
</tr>
<tr>
<td>Emergency Phone #</td>
<td>1-800-424-9300</td>
</tr>
</tbody>
</table>

Section 2. Hazards Identification

GHS Classification
- Acute toxicity, Oral (Category 4), H302
- Acute toxicity, Skin (Category 4), H312
- Skin corrosion/irritation (Category 2), H315
- Serious eye damage/eye irritation (Category 2A), H319
- Acute toxicity, Inhalation (Category 4), H332
- Specific target organ toxicity, single exposure, (Category 3) Respiratory, H335
- Carcinogenicity (Category 2), H351

GHS Label elements including precautionary statements

Pictogram

Signal word Warning

Hazard and precautionary statements
- H302 - Harmful if swallowed.
- H312 - Harmful in contact with skin.
- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.
- H332 - Harmful if inhaled.
- H335 - May cause respiratory irritation.
- H351 - Suspected of causing cancer.

Precautionary statements
- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P261 - Avoid breathing dust, fumes, gas, mist, vapors, spray.
- P264 - Wash hands thoroughly after handling.
- P270 - Do not eat, drink, or smoke when using this product.
- P271 - Use only outdoors or in a well-ventilated area.
- P280 - Wear protective gloves, protective clothing, eye protection, face protection.
- P281 - Use personal protective equipment as required.
- P284 - Wear respiratory protection.
- P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician IF you feel unwell.
- P302 + P352 - IF ON SKIN: Gently wash with plenty of soap and water.
- P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position 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 + P313 - IF exposed or concerned: Get medical advice/attention.
- P311 - Call a POISON CENTER or doctor/physician.
- P321 - Specific treatment (see supplemental first aid instructions on this label).
- P322 - Specific measures (see supplemental first aid instructions on this label).
- P330 - Rinse mouth.
- P332 + P313 - IF SKIN irritation occurs: Get medical advice/attention.
- P337 + P313 - IF eye irritation persists: Get medical advice/attention.
- P362 - Take off contaminated clothing and wash before reuse.
- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
- P405 - Store locked up.
- P501 - Dispose of contents/container to an approved waste disposal plant.

HMIS Classification Not classified.

NFPA Rating Not classified.

Potential Health Effects
- Inhalation: Acute toxicity. May be harmful if inhaled. May cause respiratory tract irritation.
- Skin: Acute toxicity. Harmful in contact with skin. May cause skin irritation.
- Eyes: Causes serious eye irritation.
Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Substances</th>
<th>Ingredient: Title Compound</th>
<th>Percent: 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula</td>
<td>C_{57}H_{89}N_{19}O_{21}S_{2} • HCl</td>
<td>Formula Wt. 1477.02</td>
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<tr>
<td>CAS No.</td>
<td>55658-47-4</td>
<td>EC No.</td>
</tr>
</tbody>
</table>

Section 4. First Aid Measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Eye Contact
Flush eyes with plenty of water for at least 15 minutes. Consult with a physician.

Skin Contact
Wash off with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Consult with physician.

Inhalation
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Ingestion
Never give anything by mouth to an unconscious person. Rinse mouth with water. Do NOT induce vomiting unless directed by a physician. Consult a physician.

Section 5. Firefighting Measures

Flash Point
Not available.

Extinguishing Media
Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

Firefighting Procedures
Wear self-contained breathing apparatus for fire fighting if necessary.

Unusual Fire Hazards
Carbon oxides, nitrogen oxides (NOx).

Section 6. Accidental Release Measures

Personal Precautions
Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental Precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleanup
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section 7. Handling and Storage

Handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Storage Conditions
Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: +4°C

Hazardous Decomposition Products
Hydrogen sulfide, carbon oxides, nitrogen oxides (NOx), phosgene.

Other Remarks

Ingestion - Acute toxicity. Harmful if swallowed. Carcinogenicity - Suspected of causing cancer.
Section 8. Exposure Controls/Personal Protection

Personal protective equipment
EXPOSURE CONTROLS
Contains no substances with occupational exposure limit values.
General industrial hygiene practice.
PERSONAL PROTECTION
Eye/face protection: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).
Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Body protection: Choose body protection in relation to its type, to the concentration and amount of dangerous substances and to the specific workplace. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection: Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Section 9. 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>Color</td>
<td>White crystal powder.</td>
</tr>
<tr>
<td>Boiling Point</td>
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</tr>
<tr>
<td>Volatility</td>
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<tr>
<td>Melting Point</td>
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<tr>
<td>Density</td>
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<td>Solubility</td>
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<td>pH</td>
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<td>Flash Point</td>
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<td>Lower explosion limit</td>
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<td>Autoignition temperature</td>
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<tr>
<td>Upper explosion limit</td>
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<td>Vapor pressure</td>
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<td>Water solubility</td>
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<td>Partition coefficient:</td>
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<td>Odor threshold</td>
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<td>Relative vapor density</td>
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</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
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</table>

Section 10. Stability and Reactivity

Stability
Stable under recommended storage conditions.

Materials To Avoid
Strong oxidizing agents.

Hazardous Decomposition Products
Hydrogen sulfide, carbon oxides, nitrogen oxides (NOx), phosgene.
### Section 11. Toxicological Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD&lt;sub&gt;50&lt;/sub&gt;</td>
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</tr>
<tr>
<td>Inhalation LC&lt;sub&gt;50&lt;/sub&gt;</td>
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</tr>
<tr>
<td>Dermal LD&lt;sub&gt;50&lt;/sub&gt;</td>
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</tr>
<tr>
<td>Other information on acute toxicity</td>
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<td>Reproductive Toxicity</td>
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<tr>
<td>Specific organ toxicity single exposure (GHS)</td>
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<td>Specific organ toxicity repeated exposure (GHS)</td>
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<tr>
<td>Teratogenicity</td>
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<td>Skin corrosion/irritation</td>
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<tr>
<td>Serious eye damage/irritation</td>
<td>Not available</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
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<tr>
<td>Germ cell mutagenicity</td>
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<tr>
<td>Aspiration Hazard</td>
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<td>Synergistic effects</td>
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<tr>
<td>Additional Information</td>
<td>RTECS: EC5990700</td>
</tr>
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</table>

#### Potential Health Effects
- Inhalation - Acute toxicity. May be harmful if inhaled. May cause respiratory tract irritation.
- Skin - Acute toxicity. Harmful in contact with skin. May cause skin irritation.
- Eyes - Causes serious eye irritation.
- Ingestion - Acute toxicity. Harmful if swallowed.
- Carcinogenicity - Suspected of causing cancer.

#### Carcinogenicity
- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.
- ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Section 12. Ecological Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity</td>
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</tr>
<tr>
<td>Mobility in soil</td>
<td>Not available</td>
</tr>
<tr>
<td>PBT and vPvB assessment</td>
<td>PBT/vPvB assessment not available as chemical safety assessment not required/not</td>
</tr>
</tbody>
</table>
Persistence and degradability  Not available.  
Bioaccumulative potential  Not available.

Section 13. Disposal Considerations

**Waste Disposal**  
Dispose of material according to all federal, state, and local regulations.  
Offer material to a licensed, professional waste disposal company to dispose of as unused product.

Section 14. Transport Information

**DOT (US)**  
Not dangerous goods.

**IATA**  
Not dangerous goods.

**IMDG**  
Not dangerous goods.

Section 15. Regulatory Information

**Reach No.**

**SARA 302 Components**  
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**  
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Components**  
No SARA hazards.

**Massachusetts Right To Know Components**  
No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**  
Bleomycin A5 Hydrochloride  CAS: 55658-47-4  Revision Date:

**New Jersey Right To Know Components**  
Bleomycin A5 Hydrochloride  CAS: 55658-47-4  Revision Date:

**California Prop 65 Components**  
This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16. Other Information

**Other information**  
The information in this document is believed to be correct but is not necessarily complete. LKT does not guarantee the accuracy of the information. The burden of verifying the information in this document rests solely upon the user.