Section 1. Product and Company Identification

Product Name  Ikarugamycin
Product ID    I4000
Chemical Name  (Synonyms)

LKT Laboratories, Inc
545 Phalen Blvd.
St. Paul, MN 55130 USA
Ph: 651-644-8424 Fax: 651-644-8357
www.lktlabs.com - getinfo@lktlabs.com

Emergency Phone #  1-800-424-9300

Section 2. Hazards Identification

GHS Classification  Acute toxicity, Oral (Category 3), H301

GHS Label elements including precautionary statements

Pictogram
Signal word  Danger
Hazard and precautionary statements
Breadbasket hazard symbol

Hazard statement
H301 - Toxic if swallowed.

Precautionary statements
P284 - Wash skin thoroughly after handling.
P270 - Do not eat, drink, or smoke when using this product.
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P321 - Specific treatment (see supplemental first aid instructions on this label).
P330 - Rinse mouth.
P405 - Store locked up.
P501 - Dispose of contents/container to an approved waste disposal plant.

HMIS Classification
Health hazard: 2
Chronic health hazard: *
Flammability: 0
Physical hazard: 0

NFPA Rating
Health hazard: 2
Fire hazard: 0
Physical hazard: 0

Potential Health Effects
Inhalation - May be harmful if inhaled. May cause respiratory tract irritation.
Skin - May be harmful if absorbed through skin. May cause skin irritation.
Eyes - May cause 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>C29H38N2O4</td>
<td>Formula Wt.</td>
</tr>
<tr>
<td>CAS No.</td>
<td>36531-78-9</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 water as a precaution.

Skin Contact
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a 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. 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
Not available.

Section 6. Accidental Release Measures

Personal Precautions
Wear respiratory protection. Avoid dust formation. Avoid breathing dust, 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: -20˚C

Hazardous Decomposition Products
Hazardous decomposition products formed under fire conditions. Carbon oxides, nitrogen oxides (NOx).

Other Remarks

Ingestion - Acute toxicity. Toxic if swallowed.
Section 8. Exposure Controls/Personal Protection

Personal protective equipment

EXPOSURE CONTROLS
Contains no substances with occupational exposure limit values. Avoid contact with skin, eyes, and clothing. Wash hands before breaks and immediately after handling the product.

PERSONAL PROTECTION
Eye/face protection: Face shield and safety glasses. 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: Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate, use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. 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>Physical State</th>
<th>Color</th>
</tr>
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<tbody>
<tr>
<td>Solid</td>
<td>White crystal powder.</td>
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<table>
<thead>
<tr>
<th>Boiling Point</th>
<th>Volatility</th>
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</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
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</table>

<table>
<thead>
<tr>
<th>Melting Point</th>
<th>Density</th>
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</thead>
<tbody>
<tr>
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<td>Not available.</td>
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</table>

<table>
<thead>
<tr>
<th>Solubility</th>
<th>pH</th>
<th>Ignition temperature</th>
<th>Autoignition temperature</th>
<th>Vapor pressure</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Flash Point</th>
<th>Lower explosion limit</th>
<th>Upper explosion limit</th>
<th>Water solubility</th>
<th>Partition coefficient: n-octanol/water</th>
<th>Relative vapor density</th>
<th>Odor</th>
<th>Odor Threshold</th>
<th>Evaporation rate</th>
</tr>
</thead>
</table>

Section 10. Stability and Reactivity

Stability
Stable under recommended storage conditions.

Materials To Avoid
Strong oxidizing agents.

Hazardous Decomposition Products
Hazardous decomposition products formed under fire conditions. Carbon oxides, nitrogen oxides (NOx).
Section 11. Toxicological Information

**Oral LD50** Not available.

**Inhalation LC50** Not available.

**Dermal LD50** Not available.

**Other information on acute toxicity** Not available.

**Skin corrosion/irritation** Not available.

**Serious eye damage/irritation** Not available.

**Respiratory or skin sensitization** Not available.

**Germ cell mutagenicity** Not available.

**Reproductive Toxicity** Not available.

**Aspiration Hazard** Not available.

**Synergistic effects** Not available.

**Specific organ toxicity single exposure (GHS)** Not available.

**Specific organ toxicity repeated exposure (GHS)** Not available.

**Teratogenicity** Not available.

**Potential Health Effects** Inhalation - May be harmful if inhaled. May cause respiratory tract irritation. Skin - May be harmful if absorbed through skin. May cause skin irritation. Eyes - May cause eye irritation. Ingestion - Acute toxicity. Toxic if swallowed.

**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

**Toxicity** Not available.

**Mobility in soil** Not available.

**PBT and vPvB assessment** PBT/vPvB assessment not available as chemical safety assessment not required/not
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. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Section 14. Transport Information

DOT (US) UN number: 2811 Class: 6.1 Packing Group: III Proper shipping name: Toxic solid, organic, n.o.s. (Ikarugamycin) Marine pollutant: No Poison inhalation hazard: No

IATA UN number: 2811 Class: 6.1 Packing Group: III Proper shipping name: Toxic solid, organic, n.o.s. (Ikarugamycin)


Further Information

Section 15. Regulatory Information

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 Acute health hazard

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

Pennsylvania Right To Know Components Ikarugamycin CAS #: 36531-78-9 Revision Date:

New Jersey Right To Know Components Ikarugamycin CAS #: 36531-78-9 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.