Section 1: Product and Company Information

Product Name: Rifampin
Product Code: 7115-60
Manufacturer: TREK Diagnostic Systems
Phone Number: (800) 871-8909
Fax: (216) 351-5456
24-hour Emergency: (800) 642-7029

Section 2: Composition and Ingredient Information

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>EINECS/ ELINCS</th>
<th>Wt.%</th>
<th>Symbol</th>
<th>R-phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rifampin</td>
<td>3-(4-methylpiperazinyliminomethyl)-rifamycin SV</td>
<td>13292-46-1</td>
<td>236-312-0</td>
<td>0.3</td>
<td>Xn</td>
<td>R22</td>
</tr>
<tr>
<td>Cyclodextrin</td>
<td>Beta-cycloamylose</td>
<td>7585-39-9</td>
<td>231-493-2</td>
<td>99.7</td>
<td>Xn</td>
<td>R22</td>
</tr>
</tbody>
</table>

*See Section 16 for the full text of the R-phrases declared above.

Note: See Section 8 of this MSDS for exposure limit data for these ingredients.

Section 3: Hazards Identification

Appearance, Color and Odor: Solid, orange, crystalline, caked powder (freeze dried)

Primary Route(s) of Exposure: Inhalation, Ingestion, Skin, Eyes

Potential Health Effects:

**ACUTE (short term):** see Section 8 for exposure controls
- **Inhalation:** May cause irritation.
- **Ingestion:** May be harmful
- **Skin:** Frequent or prolonged contact may cause irritation.
- **Eyes:** May cause conjunctivitis based on Rifampin content.

**CHRONIC (long term):** see Section 11 for additional toxicological data
- Target organs – liver, kidneys, blood
- Rifampin has been identified to cause malformation in the fetus affecting the blood, liver and lung tumors.

Medical Conditions Aggravated by Exposure: None known.
Section 4: First Aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.

Eye Contact: Rinse immediately with plenty of water, for at least 15 minutes, and seek medical advice.

Skin Contact: Wash immediately with plenty of water, for at least 15 minutes. If symptoms arise, seek medical advice.

Ingestion: Seek medical advice immediately and show the container or the MSDS.

Section 5: Fire Fighting Measures

Flash Point and Method (°F): Not considered to be a fire hazard.

Flammability Limits (%): Not applicable

Auto Ignition Temperature (°F): Not applicable

Extinguishing Media: Use appropriate extinguishing media for surrounding material.

Unusual Fire and Explosion Hazards: Emits toxic fumes under fire conditions.

Fire Fighting Instructions: Wear self-contained breathing apparatus and protective clothing to prevent contact with eyes and skin.

Hazardous Combustion Products: Carbon monoxide, carbon dioxide, nitrogen oxides

Section 6: Accidental Release Measures

Air Release: Avoid creating dust clouds.

Land Spill: While wearing protective equipment, sweep up and place in a container for proper disposal.

Water Spill: Completely soluble in water.

Section 7: Handling and Storage

Storage Temperature: For quality assurance purposes, store between 2-8 ° C

Storage Pressure: Not applicable

General: Store in a cool, dry place. Use a chemical fume hood to control dust.

Section 8: Exposure Controls and Personal Protection

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>ACGIH TLV (8-hr. TWA) (mg/m³)</th>
<th>U.S. OSHA PEL (8-hr. TWA) (mg/m³)</th>
<th>UK OEL (8-hr. TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rifampin</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
</tr>
<tr>
<td>Cyclodextrin</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
</tr>
</tbody>
</table>
Engineering Controls: Provide general and/or local exhaust ventilation to control airborne concentrations below the recommended exposure guideline.

Personal Protection:
- Respiratory: Use a NIOSH/MSHA approved respirator to protect from dust exposures.
- Skin Protection: Chemical resistant gloves and body-covering clothing to prevent contact. Nitrile or neoprene gloves recommended.
- Eye Protection: Safety goggles

Other: None

Section 9: Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical State:</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance:</td>
<td>Orange, crystalline, caked powder (freeze dried)</td>
</tr>
<tr>
<td>pH:</td>
<td>5.0 – 6.5 when rehydrated with 25 ml of water.</td>
</tr>
<tr>
<td>Specific Gravity: (water = 1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Pressure: (mm Hg @ 20°C)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Density: (Air = 1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility in Water:</td>
<td>Completely soluble</td>
</tr>
<tr>
<td>Water / Oil distribution coefficient:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing Point:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Odour Type:</td>
<td>Odorless.</td>
</tr>
<tr>
<td>Evaporation Rate: (n-Butyl Acetate = 1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Other:</td>
<td>None</td>
</tr>
</tbody>
</table>

Section 10: Stability and Reactivity

Stability: Stable

Incompatible Materials and Conditions to Avoid: Strong oxidizing agents. Light can affect quality assurance.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, nitrogen oxides.

Hazardous Polymerization: Will not occur

Other Reactivity Concerns: None
**Section 11: Toxicological Information**

**Carcinogenicity:**

The table below indicates whether or not each agency has listed each ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rifampin</td>
<td>Not listed</td>
<td>3</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Cyclodextrin</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>LD$_{50}$ Oral (mg/kg)</th>
<th>LD$_{50}$ Dermal (mg/kg)</th>
<th>LC$_{50}$ Inhalation (mg/m$^3$, 4 hrs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rifampin</td>
<td>1570 (rat)</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td></td>
<td>500 (mouse)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyclodextrin</td>
<td>18800 (rat)</td>
<td>Not available</td>
<td>Not available</td>
</tr>
</tbody>
</table>

**Section 12: Ecological Information**

The ecological effects have not been thoroughly investigated, but currently none have been identified.

**Section 13: Disposal Considerations**

**Waste Disposal Method:** Dispose of in accordance with local, state and federal regulations.

**Section 14: Transport Information**

<table>
<thead>
<tr>
<th>DOT Proper Shipping Name:</th>
<th>Not regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Hazard Classification:</td>
<td>Primary: Not regulated</td>
</tr>
<tr>
<td></td>
<td>Secondary: Not regulated</td>
</tr>
<tr>
<td>DOT Special Provisions:</td>
<td>None</td>
</tr>
<tr>
<td>DOT Packaging Exceptions:</td>
<td>None</td>
</tr>
<tr>
<td>DOT Non-bulk Packaging:</td>
<td>None</td>
</tr>
<tr>
<td>DOT Bulk Packaging:</td>
<td>None</td>
</tr>
<tr>
<td>IMDG Proper Shipping Name:</td>
<td>Not regulated</td>
</tr>
<tr>
<td>IATA Proper Shipping Name:</td>
<td>Not regulated</td>
</tr>
</tbody>
</table>

**Section 15: Regulatory Information**

<table>
<thead>
<tr>
<th>TSCA Status:</th>
<th>Exempt under TSCA.</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Proposition 65:</td>
<td>None</td>
</tr>
<tr>
<td>SARA Title III:</td>
<td>None</td>
</tr>
<tr>
<td>Sec. 302/304:</td>
<td>None</td>
</tr>
<tr>
<td>Sec. 313:</td>
<td>None</td>
</tr>
<tr>
<td>Right to Know:</td>
<td>None</td>
</tr>
</tbody>
</table>

Xn Harmful

R22 Harmful if swallowed

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/39 Wear suitable protective clothing and eye/face protection.

Other: None

Section 16: Other Information

HMIS and NFPA Hazard Rating:

<table>
<thead>
<tr>
<th>Category</th>
<th>HMIS</th>
<th>NFPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reactivity</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Full Text of R-phrases appearing in Section 2: R22 – Harmful if swallowed

Text of classifications appearing in Section 2: Xn - Harmful

Preparation Information:

Prepared by: LEHDER Environmental Services Limited

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N7V 1X4

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