Section 1: Product and Company Information

Product Name: Rifampin
Product Code: 7115-60
Manufacturer: TREK Diagnostic Systems
982 Keynote Circle, Suite 6
Cleveland, OH 44131
USA
Phone Number: (800) 871-8909
(216) 351-5456
Fax: (800) 642-7029
24-hour Emergency: (800) 871-8909
European: TREK Diagnostic Systems
Unit 17-19,
Birches Industrial Estate
East Grinstead
West Sussex, RH19 1XZ
UK
Telephone No. 44-1342-318777

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: Use a NIOSH/MSHA approved respirator to protect from dust exposures.

Respiratory Protection: Chemical resistant gloves and body-covering clothing to prevent contact. Nitrile or neoprene gloves recommended. Safety goggles

Other: None

Section 9: Physical and Chemical Properties

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

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

DOT Proper Shipping Name: Not regulated
DOT Hazard Classification: Primary: Not regulated
Secondary: Not regulated
DOT Special Provisions: None
DOT Packaging Exceptions: None
DOT Non-bulk Packaging: None
DOT Bulk Packaging: None
IMDG Proper Shipping Name: Not regulated
IATA Proper Shipping Name: Not regulated

Section 15: Regulatory Information

TSCA Status: Exempt under TSCA.
California Proposition 65: None
SARA Title III:
Sec. 302/304: None
Sec. 313: None
Right to Know: None

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
Address: 704 Mara Street, Suite 210
Point Edward, Ontario
N7V 1X4
Phone: (519) 336-4101


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