Section 1: Product and Company Information

Product Name: Pyrazinamide
Product Code: 7116-70
Manufacturer: TREK Diagnostic Systems
TREK Diagnostic Systems
982 Keynote Circle, Suite 6
Cleveland, OH 44131
USA
European: TREK Diagnostic Systems
Unit 17-19
Birches Industrial Estate
East Grinstead
West Sussex, RH19 1XZ
UK
Phone Number: (800) 871-8909
(216) 351-5456
(800) 642-7029
Fax: (800) 871-8909
(216) 351-5456
(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>Pyrazinamide</td>
<td>Pyrazinoic acid amide</td>
<td>98-96-4</td>
<td>202-717-6</td>
<td>28.4</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Cyclodextrin</td>
<td>Beta-cycloamylose</td>
<td>7585-39-9</td>
<td>231-493-2</td>
<td>71.6</td>
<td>Xn</td>
<td>R22</td>
</tr>
</tbody>
</table>

* See Section 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, white, 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 be harmful
- **Ingestion:** May be harmful
- **Skin:** May be harmful
- **Eyes:** May be irritating

CHRONIC (long term): see Section 11 for additional toxicological data

Target organ – liver.

Medical Conditions Aggravated by Exposure: Those with preexisting liver disease or at risk for liver-related illness should avoid contact with this material.
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 and seek medical advice.

**Skin Contact:** Wash immediately with plenty of water, and seek medical advice if symptoms arise.

**Ingestion:** Seek medical advice immediately and show this container.

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:** Not available.

Section 7: Handling and Storage

**Storage Temperature:** 2 – 8 °C

**Storage Pressure:** Not applicable.

**General:** Keep container tightly closed and store in a cool, dry place. Use a chemical fume hood to rehydrate.

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>Pyrazinamide</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 Protection: 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>White, crystalline, caked powder (freeze-dried)</td>
</tr>
<tr>
<td>pH:</td>
<td>7.0-8.5 when rehydrated with 25 ml of water</td>
</tr>
<tr>
<td>Specific Gravity: (water = 1)</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>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>Not available.</td>
</tr>
<tr>
<td>Water / Oil distribution coefficient:</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odour Type:</td>
<td>Odourless.</td>
</tr>
<tr>
<td>Evaporation Rate: (n-Butyl Acetate = 1)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Other:</td>
<td>Completely soluble in PZA Rehydration Buffer</td>
</tr>
</tbody>
</table>

Section 10: Stability and Reactivity

Stability: Stable.

Incompatible Materials and Conditions to Avoid: Strong oxidizing agents.

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>Pyrazinamide</td>
<td>Not listed</td>
<td>Not listed</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>Pyrazinamide</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Cyclodextrin</td>
<td>18 800 (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
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

**EC Directive:** The product is classified as dangerous according to Directive 1999/45/EC and it’s amendments.

- Xn  Harmful
- R22 Harmful if swallowed.
- S20 When using, do not eat or drink.
- S36 Wear suitable protective clothing.
- S46 If swallowed, seek medical advice immediately & show container / label.

**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>2</td>
<td>2</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

**Preparation date:** September 23, 1999. Revised November 7, 2002 by TREK to update TREK USA address. Revised July 24, 2003 by TREK to update regulatory information. Revised August 14, 2010 by TREK to update TREK UK address.

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