Section 1: Product and Company Information

Product Name: Isoniazid
Product Code: 7115-60
Manufacturer: TREK Diagnostic Systems
982 Keynote Circle, Suite 6
Cleveland, OH 44131
Phone Number: (800) 871-8909
Fax: (216) 351-5456
24-hour Emergency: (800) 642-7029
European: TREK Diagnostic Systems
Imberhorne Lane, East Grinstead
West Sussex, UK, RH19 1QX 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>Isoniazid</td>
<td>4-Pyridinecarboxylic hydrazide</td>
<td>54-85-3</td>
<td>200-214-6</td>
<td>0.1</td>
<td>Xn</td>
<td>R22, R33</td>
</tr>
<tr>
<td>Cyclodextrin</td>
<td>Beta-cycloamylose</td>
<td>7585-39-9</td>
<td>231-493-2</td>
<td>99.9</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, 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 cause irritation.
Ingestion: May be harmful.
Skin: Allergic reaction may occur in sensitive individuals.
Eyes: May cause irritation.

CHRONIC (long term): see Section 11 for additional toxicological data
Target organs – liver, nerves. Can cause severe liver damage including hepatitis.

IARC has classified Isoniazid under Group 3 – Unclassifiable as to carcinogenicity to humans

Laboratory experiments on isoniazid have shown mutagenic effects.
Isoniazid has been reported to induce pulmonary tumors in a number of strains of mice.

Medical Conditions Aggravated by Exposure: None known.
MATERIAL SAFETY DATA SHEET

Product Name: Isoniazid
MSDS #: L-MSDS7119-3

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: Completely soluble in water.

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 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>Isoniazid</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

| Physical State:  | Solid                      |
| Vapor Pressure:  | (mm Hg @ 20°C) Not applicable. |
| Appearance:      | White, crystalline, caked powder (freeze-dried). |
| pH:              | 7.0-8.5 when rehydrated with 25 ml water. |
| Specific Gravity:| Not applicable. (water = 1) |
| Boiling Point:   | Not applicable. |
| Freezing Point:  | Not applicable. |
| Viscosity:       | Not applicable. |
| Solubility in Water: | Completely soluble in water. |
| Water / Oil distribution coefficient: | Not available. |
| Odour Type:      | Odourless. |
| Evaporation Rate:| (n-Butyl Acetate = 1) Not applicable. |

Section 10: Stability and Reactivity

Stability: Stable.

Incompatible Materials and Conditions to Avoid: Incompatible with 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>Isoniazid</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>
MATERIAL SAFETY DATA SHEET

Product Name: Isoniazid
MSDS #: L-MSDS7119-3

<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>Isoniazid</td>
<td>1250 (rat)</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>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  
**Preparation date:** September 23, 1999; Revised to reflect new TREK address November 7, 2002. Revised and Updated July 18, 2003 for regulatory information.  
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