Section 1. Product and Company Identification

Product Name: Aminopterin
Product ID: A5001
Chemical Name (Synonyms): 4-Aminofolic acid

Supplier: 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 2), H300
Reproductive toxicity (Category 1B), H360

GHS Label elements including precautionary statements

Pictogram

Signal word: Danger

Hazard and precautionary statements

Hazard Statements
H300 - Fatal if swallowed.
H360 - May damage fertility or the unborn child.

Precautionary Statements
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P264 - Wash skin thoroughly after handling.
P270 - Do not eat, drink, or smoke when using this product.
P281 - Use personal protective equipment as required.
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P305 + P313 - IF exposed or concerned: Get medical advice/attention.
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: 3
Chronic health hazard: *
Flammability: 0
Physical hazards: 0

NFPA Rating
Health hazard: 4
Fire hazard: 0
Reactivity 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.
Ingestion - Acute toxicity. Fatal if swallowed. Reproductive toxicity - May damage fertility or the unborn child.

### Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Substances</th>
<th>Formula</th>
<th>Formula Wt.</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-[4-[[2,4-Diamino-6-pteridinyl]methyl]amino]benzoyl]-L-glutamic acid</td>
<td>C₁₉H₂₀N₈O₅</td>
<td>440.41</td>
<td>54-62-6</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 flammable or combustible.

**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**

### 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: Ambient

**Hazardous Decomposition Products**
Carbon oxides, nitrogen oxides (NOx).

**Other Remarks**
Section 8. Exposure Controls/Personal Protection

Personal protective equipment

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. Full and splash contact - Material: Nitrile rubber, Minimum layer thickness: 0.11 mm, Break through time: 480 min. Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M).

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 N100 (US) or type P3 (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>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>Dark yellow-brown powder.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Boiling Point</th>
<th>Volatility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available</td>
<td>Not available.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Melting Point</th>
<th>Density</th>
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</thead>
<tbody>
<tr>
<td>230°C-235°C or 437°F</td>
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</table>

<table>
<thead>
<tr>
<th>Solubility</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soluble in DMSO or 2 N NaOH (50mg/mL).</td>
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</table>

<table>
<thead>
<tr>
<th>Flash Point</th>
<th>Ignition temperature</th>
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</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lower explosion limit</th>
<th>Autoignition temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Upper explosion limit</th>
<th>Vapor pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water solubility</th>
<th>Odor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Partition coefficient: n-octanol/water</th>
<th>Odor Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Relative vapor density</th>
<th>Evaporation rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Section 10. Stability and Reactivity

Stability

Stable under recommended storage conditions.

Materials To Avoid

Strong oxidizing agents.

Hazardous Decomposition Products

Carbon oxides, nitrogen oxides (NOx).
**Section 11. Toxicological Information**

<table>
<thead>
<tr>
<th></th>
<th>Oral LD50</th>
<th>Not available.</th>
<th>Skin corrosion/irritation</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inhalation LC50</td>
<td>Not available.</td>
<td>Serious eye damage/irritation</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>Dermal LD50</td>
<td>Not available.</td>
<td>Respiratory or skin sensitization</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other information on acute toxicity</td>
<td>Not available.</td>
<td>Germ cell mutagenicity</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Reproductive Toxicity</td>
<td>May cause congenital malformation in the fetus. Presumed human reproductive toxicant.</td>
<td>Aspiration Hazard</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Specific organ toxicity single exposure (GHS)</td>
<td>Not available.</td>
<td>Synergistic effects</td>
<td>Not available.</td>
<td></td>
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<tr>
<td>Specific organ toxicity repeated exposure (GHS)</td>
<td>Not available.</td>
<td>Additional Information</td>
<td>RTECS: MA1050000</td>
<td></td>
</tr>
</tbody>
</table>

**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. Fatal if swallowed.
- Reproductive toxicity: May damage fertility or the unborn child.

**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.

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**Section 12. Ecological Information**

<table>
<thead>
<tr>
<th></th>
<th>Toxicity</th>
<th>Not available.</th>
<th>Mobility in soil</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PBT and vPvB assessment</td>
<td>Not available as chemical safety assessment not available.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Waste Disposal

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Dispose of as unused product.

Section 13. Disposal Considerations

Persistence and degradability Not available. Other adverse effects Not available.

Bioaccumulative potential Not available.

Section 14. Transport Information

DOT (US) UN number: 2811 Class: 6.1 Packing group: I Proper shipping name: Toxic solids, organic, n.o.s. (Aminopterin) Reportable Quantity (RQ): Marine pollutant: No Poison Inhalation Hazard: No

IATA UN number: 2811 Class: 6.1 Packing group: I Proper shipping name: Toxic solid, organic, n.o.s. (Aminopterin)

IMDG UN number: 2811 Class: 6.1 Packing group: I EMS-No: F-A, S-A Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (Aminopterin)

Further Information

Section 15. Regulatory Information

SARA 302 Components The following components are subject to reporting levels established by SARA Title III, Section 302: N-[4-[[2,4-Diamino-6-pteridinyl]methyl]amino]benzoyl]-L-glutamic acid CAS#: 54-62-6 Revision Date: 04/24/93

SARA 313 Components SARA313: This material does not contain any chemical components with known CAS number that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Components Hazards: Acute health hazard, Chronic Health Hazard

Massachusetts Right To Know Components Aminopterin CAS#: 54-62-6 Revision Date: 1993-04-24

Pennsylvania Right To Know Components Aminopterin CAS#: 54-62-6 Revision Date: 1993-04-24

New Jersey Right To Know Components Aminopterin CAS#: 54-62-6 Revision Date: 1993-04-24

California Prop 65 Components WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. Aminopterin CAS#: 54-62-6 Revision Date: 1987-07-01

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.