LKT Laboratories, Inc.

Safety Data Sheet

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: 651-644-8442 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>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>54-62-6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Formula Wt.</th>
<th>EC No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>440.41</td>
<td>200-209-9</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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<table>
<thead>
<tr>
<th>Boiling Point</th>
<th>Volatility</th>
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<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
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<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>
<thead>
<tr>
<th>Solubility</th>
<th>pH</th>
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<tbody>
<tr>
<td>Soluble in DMSO or 2 N NaOH (50mg/mL).</td>
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<table>
<thead>
<tr>
<th>Flash Point</th>
<th>Ignition temperature</th>
<th>Autoignition temperature</th>
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</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

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

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

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

**Oral LD50** Not available.  
**Skin corrosion/irritation** Not available.

**Inhalation LC50** Not available.  
**Serious eye damage/irritation** Not available.

**Dermal LD50** Not available.  
**Respiratory or skin sensitization** Not available.

**Other information on acute toxicity** Not available.  
**Germ cell mutagenicity** Not available.

**Reproductive Toxicity** May cause congenital malformation in the fetus. Presumed human reproductive toxicant.  
**Aspiration Hazard** Not available.

**Specific organ toxicity single exposure (GHS)** Not available.  
**Synergistic effects** Not available.

**Specific organ toxicity repeated exposure (GHS)** Not available.  
**Additional Information** RTECS: MA1050000  
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Teratogenicity** Not available.  
**Signs and symptoms of exposure** Blood disorders. Stomach - irregularities - based on human evidence.

**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.

Section 12. Ecological Information

**Toxicity** Not available.  
**Mobility in soil** Not available.

**PBT and vPvB assessment not available not available as chemical safety assessment not"
Section 13. Disposal Considerations

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 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

Reach No.

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.