Section 1. Product and Company Identification

<table>
<thead>
<tr>
<th><strong>Product Name</strong></th>
<th>Artemisinin (Qinghaosu)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product ID</strong></td>
<td>A6978</td>
</tr>
<tr>
<td><strong>Chemical Name</strong></td>
<td>Artemisine; Arteannuin; Qinghaosu; QHS</td>
</tr>
<tr>
<td><strong>Supplier</strong></td>
<td>LKT Laboratories, Inc</td>
</tr>
<tr>
<td></td>
<td>545 Phalen Blvd.</td>
</tr>
<tr>
<td></td>
<td>St. Paul, MN 55130 USA</td>
</tr>
<tr>
<td></td>
<td>Ph: 651-644-8424 Fax: 651-644-8357</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.lktlabs.com">www.lktlabs.com</a> - <a href="mailto:getinfo@lktlabs.com">getinfo@lktlabs.com</a></td>
</tr>
<tr>
<td><strong>Emergency Phone #</strong></td>
<td>1-800-424-9300</td>
</tr>
</tbody>
</table>

Section 2. Hazards Identification

GHS Classification

- Not a hazardous substance or mixture.

Hazard and precautionary statements

- **Hazard statement**: Not a hazardous substance or mixture.
- **Precautionary statement**: Not a hazardous substance or mixture.

HMIS Classification

- Health hazard: 0
- Chronic health hazard: *
- Flammability: 0
- Physical hazard: 0

NFPA Rating

- Health hazard: 0
- Fire hazard: 0
- Reactivity hazard: 0

Potential Health Effects

- Inhalation - May be harmful if inhaled. May cause respiratory irritation.
- Skin - May be harmful if absorbed through skin. May cause skin irritation.
- Eyes - May cause eye irritation.
Section 3. Composition/Information on Ingredients

Substances

<table>
<thead>
<tr>
<th>Formula</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C_{15}H_{22}O_{5}</td>
<td>63968-64-9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Formula Wt.</th>
<th>EC No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>282.35</td>
<td></td>
</tr>
</tbody>
</table>

Section 4. First Aid Measures

Eye Contact

Flush eyes with water as a precaution.

Skin Contact

Wash off with soap and plenty of water.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

Ingestion

Never give anything by mouth to an unconscious person. Rinse mouth with water.

Section 5. Firefighting Measures

Flash Point

Not available.

Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

Firefighting Procedures

Wear self-contained breathing apparatus for firefighting if necessary.

Unusual Fire Hazards

Carbon oxides.

Section 6. Accidental Release Measures

Personal Precautions

Avoid dust formation. Avoid breathing vapors, mist, or gas.

Environmental Precautions

Do not let product enter drains.

Methods and materials for containment and cleanup

Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section 7. Handling and Storage

Handling

Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. 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

Not available.

Other Remarks

None.
Section 8. Exposure Controls/Personal Protection

Personal protective equipment
EXPOSURE CONTROLS
Contains no substances with occupational exposure limit values.

PERSONAL PROTECTION
Eye/face protection - 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.

Body Protection - Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection - Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure - Do not let product enter drains.

Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>White crystalline powder.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Melting Point</th>
<th>Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>156°C-157°C</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solubility</th>
<th>pH</th>
<th>Ignition temperature</th>
<th>Autoignition temperature</th>
<th>Vapor pressure</th>
<th>Odor Threshold</th>
<th>Evaporation rate</th>
</tr>
</thead>
</table>

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

<table>
<thead>
<tr>
<th>Water solubility</th>
<th>Partition coefficient: n-octanol/water</th>
<th>Relative vapor density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insoluble in water.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stability</th>
<th>Materials To Avoid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable under recommended storage conditions.</td>
<td>Strong oxidizing agents.</td>
</tr>
</tbody>
</table>

| Hazardous Decomposition Products | Not available. |
Section 11. Toxicological Information

Oral LD50  Rat - 5,576 mg/kg

Inhalation LC50  Not available.

Dermal LD50  Not available.

Other information on acute toxicity  Not available.

Reproductive Toxicity  Not available.

Specific organ toxicity single exposure (GHS)  Not available.

Specific organ toxicity repeated exposure (GHS)  Not available.

Teratogenicity  Not available.

Potential Health Effects
Inhalation - May be harmful if inhaled. May cause respiratory irritation.
Skin - May be harmful if absorbed through skin. May cause skin irritation.
Eyes - May cause eye irritation.
Ingestion - May be harmful if swallowed.

Aspiration Hazard  Not available.

Synergistic effects  Not available.

Germ cell mutagenicity  Not available.

Skin corrosion/irritation  Not available.

Serious eye damage/irritation  Not Available

Respiratory or skin sensitization  Not available.

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 as chemical safety assessment not required/not possible.
Section 13. Disposal Considerations

Dispose of material according to all federal, state, and local regulations. Offer material to a licensed, professional waste disposal company to dispose of as unused product.

Section 14. Transport Information

**DOT (US)** Not dangerous goods.

**IMDG** Not dangerous goods.

Further Information

Section 15. Regulatory Information

**SARA 302 Components** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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

**SARA 311/312 Components** No SARA hazards.

**Massachusetts Right To Know Components** No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components** Artemisinin CAS #: 63968-64-9 Revision Date:

**New Jersey Right To Know Components** Artemisinin CAS #: 63968-64-9 Revision Date:

**California Prop 65 Components** This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16. 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.