Section 1. Product and Company Identification

Product Name
Palmatine Chloride Hydrate

Product ID
P0245

Chemical Name (Synonyms)
Berbericinine; Palmatin

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 4), H302
Acute toxicity, Inhalation (Category 4), H332
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319

GHS Label elements including precautionary statements

Pictogram
![Warning]

Signal word
Warning

Hazard and precautionary statements

Hazard statements
H302 + H332 - Harmful if swallowed or if inhaled.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.

Precautionary statements
P261 - Avoid breathing dust, fumes, gas, mist vapors and spray.
P280 - Wear protective gloves, eye and face protection.
P301 + P312 - IF SWALLOWED: CALL A POISON CENTER or doctor/physician if you feel unwell.
P302 + P332 - IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 - Dispose of contents/container to an approved waste disposal plant.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P321 - Specific treatment (see supplemental first aid instructions on this label).
P330 - Rinse mouth.
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
P337 + P313 - If eye irritation persists: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.

HMIS Classification
Health hazard: 2
Chronic health hazard: *
Flammability: 1
Physical hazard: 0

NFPA Rating
Health hazard: 2
Fire hazard: 1
Reactivity hazard: 0

Potential Health Effects
Inhalation: Harmful if inhaled. Causes respiratory tract irritation.
Skin: May be harmful if absorbed through skin. Causes skin irritation.
Eyes: Causes serious eye irritation.
Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Substances</th>
<th>Formula</th>
<th>CAS No.</th>
<th>Formula Wt.</th>
<th>EC No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C_{21}H_{22}ClNO_4 \cdot xH_2O</td>
<td>171869-95-7</td>
<td>387.86</td>
<td></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
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin Contact
Wash off with soap and plenty of water. 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
113˚C (235˚F) - closed cup.

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

Firefighting Procedures
Wear self-contained breathing apparatus for fire fighting and protective clothing if necessary.

Unusual Fire Hazards
Carbon oxides, nitrogen oxides (NOx) and hydrogen chloride gas.

Section 6. Accidental Release Measures

Personal Precautions
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

Environmental Precautions
Do not let product enter drains.

Methods and materials for containment and cleanup
Avoid raising 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. Normal measures for preventive fire protection.

Storage Conditions
Keep container tightly closed in a dry and well-ventilated place. Store at -20˚C.

Hazardous Decomposition Products
Nature of decomposition products not known.

Other Remarks
None.
Section 8. Exposure Controls/Personal Protection

**Personal protective equipment**

**EXPOSURE CONTROLS**

Contains no substances with occupational exposure limit values.

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**PERSONAL PROTECTION**

**Eye/face protection:** Safety glasses with side-shields conforming to EN 166. 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:** 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:** For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid.</td>
<td>Yellow needle crystal needle, powder, odorless.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Boiling Point</th>
<th>Volatility</th>
</tr>
</thead>
<tbody>
<tr>
<td>206°C-207°C(dec)</td>
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</table>

<table>
<thead>
<tr>
<th>Melting Point</th>
<th>Density</th>
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</thead>
<tbody>
<tr>
<td>113°C (235°F) - closed cup.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Solubility</th>
<th>pH</th>
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</thead>
<tbody>
<tr>
<td>Soluble in hot water and alcohol.</td>
<td>Not available.</td>
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</tbody>
</table>

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

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Section 10. Stability and Reactivity

**Stability**

Stable under recommended storage conditions.

**Materials To Avoid**

Not available.

**Hazardous Decomposition Products**

Nature of decomposition products not known.
### Section 11. Toxicological Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50</td>
<td>Not available.</td>
</tr>
<tr>
<td>Inhalation LC50</td>
<td>Not available.</td>
</tr>
<tr>
<td>Dermal LD50</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other information on acute toxicity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Reproductive Toxicity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Specific organ toxicity single exposure (GHS)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Specific organ toxicity repeated exposure (GHS)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not available.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not available.</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not available.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Aspiration Hazard</td>
<td>Not available.</td>
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<tr>
<td>Synergistic effects</td>
<td>Not available.</td>
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<tr>
<td>Additional Information</td>
<td>RTECS: Not available.</td>
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</table>

### Section 12. Ecological Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Toxicity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Mobility in soil</td>
<td>Not available.</td>
</tr>
<tr>
<td>PBT and vPvB assessment</td>
<td>PBT/vPvB assessment not available as chemical safety assessment not required/not</td>
</tr>
</tbody>
</table>
Section 13. Disposal Considerations

Waste Disposal
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)  UN number: 2811  Class: 6.1  Packing group: III  
Proper shipping name: Toxic solids, organic, n.o.s. (Palmatine chloride hydrate)  
Marine pollutant: No / Poison inhalation hazard: No

IATA  UN 2811  Class: 6.1  Packing group: III  
Proper shipping name: Toxic solid, organic, n.o.s. (Palmatine chloride hydrate)

IMDG  UN 2811  Class: 6.1  Packing group: III  EMS-No: F-A, S-A  
Proper shipping name: Toxic solids, organic, n.o.s. (Palmatine chloride hydrate)  
Marine pollutant: No

Further Information

Section 15. Regulatory Information

Reach No.

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, Section 313.

SARA 311/312 Components  Acute health hazard, Chronic health hazard

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

Pennsylvania Right To Know Components  Palmatine chloride hydrate  CAS #: 171869-95-7  Revision Date:

New Jersey Right To Know Components  Palmatine chloride hydrate  CAS #: 171869-95-7  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

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.

Persistence and degradability  Not available.

Bioaccumulative potential  Not available.

Other adverse effects  Not available.