**Section 1. Product and Company Identification**

**Product Name**
[D-Asp3, (E)-Dhb7]-Microcystin-HtyR

**Product ID**
M3414

**Chemical Name**
MC(N-Me)LR

**Synonyms**

**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

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**Section 2. Hazards Identification**

**GHS Classification**
Acute toxicity, Oral (Category 2), H300
Acute toxicity, Dermal (Category 2), H310
Skin irritation (Category 2), H315
Skin sensitization (Category 1), H317
Eye irritation (Category 2A), H319
Acute toxicity, Inhalation (Category 1), H330
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

**GHS Label elements including precautionary statements**

**Pictogram**

**Signal word**
Danger

**Hazard and precautionary statements**

**Hazard statements**
H300 - Fatal if swallowed.
H310 - Fatal in contact with skin.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H330 - Fatal if inhaled.
H335 - May cause respiratory irritation.

**Precautionary statements**

P260 - Do not breathe dust, fumes, gas, mist, vapors and spray.
P262 - Do not get in eyes, on skin or on clothing.
P264 - Wash skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves, protective clothing, eye protection and face protection.
P284 - Wear respiratory protection.
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302 + P352 - 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.
P310 + P313 - IF SKIN irritation occurs: Get medical advice/attention.
P330 - Gently wash with plenty of soap and water.
P361 - Remove/Take off immediately all contaminated clothing.
P363 - Wash contaminated clothing before reuse.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents & or container to an approved waste disposal plant.

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**HMIS Classification**

Health hazard: 3
Flammability: 0
Physical hazards: 0

**NFPA Rating**

Health hazard: 3
Fire: 0
Reactivity hazard: 0

**Potential Health Effects**

Inhalation - Fatal if inhaled.
Skin - Fatal in contact with skin.
Ingestion - Fatal if swallowed.
Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Substances</th>
<th>Ingredient: Title Compound</th>
<th>Percent: 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula</td>
<td>C_52_H_72_N_10_O_13</td>
<td></td>
</tr>
<tr>
<td>CAS No.</td>
<td>913178-65-1</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
Flush eyes with water for at few minutes. If contacts are present, remove and continue to flush eyes for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Consult a physician.

Skin Contact
Wash off with soap and plenty of water for at least 15 minutes. Take victim immediately to hospital. Consult a physician. Be sure to remove the contaminated clothing and shoes and wash before wearing again.

Inhalation
If breathed in, move person into fresh air. If breathing becomes difficult, give oxygen and consult a physician. If not breathing, give artificial respiration. Consult a physician.

Ingestion
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult the local poison center and physician.

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 fire fighting and full protective clothing to prevent contact with skin and eyes.

Unusual Fire Hazards
Hazardous decomposition product formed under fire conditions. Carbon oxides, nitrogen oxides (NOx). It may emit toxic gases.

Section 6. Accidental Release Measures

Personal Precautions
Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Wear chemical resistant gloves, boots and goggles for clean up. Evacuate personnel to safe areas. Avoid breathing dust.

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. Wash spill site and ventilate area after material pickup is complete.

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. Material is highly toxic. Avoid prolonged or repeated exposure. Wash thoroughly after handling material.

Storage Conditions
Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: -20°C.

Hazardous Decomposition Products
Hazardous decomposition products formed under fire conditions. Carbon oxides, nitrogen oxides (NOx).

Other Remarks
Material is highly toxic.
Section 8. Exposure Controls/Personal Protection

Personal protective equipment

EXPOSURE CONTROLS
Contains no substances with occupational exposure limit values.
General industrial hygiene and safety practices.

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 love’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: Wear suitable protective clothing. Choose body protection in relation to its type, to the concentration and amount of dangerous substances and to the specific workplace.
Respiratory protection: 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). Handle in a chemical fume hood with adequate ventilation.

Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Clear film</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Volatility</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in Methanol and Dimethyl sulfoxide.</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Not available</td>
</tr>
<tr>
<td>Odor</td>
<td>Not available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Section 10. Stability and Reactivity

Stability
Stable under recommended storage conditions.

Materials To Avoid
Avoid contact with strong oxidizing agents. Avoid use of Dimethyl sulfoxide (DMSO) because of its ability to carry toxic materials across membranes.

Hazardous Decomposition Products
Hazardous decomposition products formed under fire conditions. Carbon oxides, nitrogen oxides (NOx).
### Section 11. Toxicological Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oral LD50</strong></td>
<td>Fatal if swallowed.</td>
</tr>
<tr>
<td><strong>Inhalation LC50</strong></td>
<td>Fatal if inhaled.</td>
</tr>
<tr>
<td><strong>Dermal LD50</strong></td>
<td>Fatal in contact with skin.</td>
</tr>
<tr>
<td><strong>Other information on acute toxicity</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Reproductive Toxicity</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Specific organ toxicity single exposure (GHS)</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Specific organ toxicity repeated exposure (GHS)</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Teratogenicity</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Germ cell mutagenicity</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Skin corrosion/irritation</strong></td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td><strong>Serious eye damage/irritation</strong></td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td><strong>Respiratory or skin sensitization</strong></td>
<td>May cause allergic skin reaction. May cause respiratory irritation.</td>
</tr>
<tr>
<td><strong>Aspiration Hazard</strong></td>
<td>Fatal if inhaled.</td>
</tr>
<tr>
<td><strong>Synergistic effects</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Additional Information</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Signs and symptoms of exposure</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Potential Health Effects</strong></td>
<td>Inhalation - Fatal if inhaled.</td>
</tr>
<tr>
<td></td>
<td>Skin - Fatal in contact with skin.</td>
</tr>
<tr>
<td></td>
<td>Ingestion - Fatal if swallowed.</td>
</tr>
<tr>
<td></td>
<td>Eyes - Causes serious eye irritation.</td>
</tr>
<tr>
<td></td>
<td>Liver - Congeners are selectively transported to the liver resulting in acute liver failure and tumor promotion.</td>
</tr>
</tbody>
</table>

### Section 12. Ecological Information

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

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

Persistence and degradability
Not available.

Bioaccumulative potential
Not available.

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. 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: 3462  Class: 6.1  Packing group: I
Proper shipping name: Toxins, extracted from living sources, solid, n.o.s. ([D-Asp3, (E)-Dhb7]-Microcystin-HtyR)

IATA
UN number: 3462  Class: 6.1  Packing group: I
Proper shipping name: Toxins, extracted from living sources clear film, n.o.s. ([D-Asp3, (E)-Dhb7]-Microcystin-HtyR)

IMDG
UN number: 3462  Class: 6.1  Packing group: I
Proper shipping name: TOXINS, EXTRACTED FROM LIVING SOURCES CLEAR FILM, N.O.S. ([D-Asp3, (E)-Dhb7]-Microcystin-HtyR)

Further Information

Section 15. Regulatory Information

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, 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
Acute health hazard

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

Pennsylvania Right To Know Components
[D-Asp3, (E)-Dhb7]-Microcystin-HtyR

New Jersey Right To Know Components
[D-Asp3, (E)-Dhb7]-Microcystin-HtyR

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.