Section 1. Product and Company Identification

Product Name: Droloxifene
Product ID: D6957
Chemical Name: 3-Hydroxytamoxifen

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:
- Skin sensitization (Category 1), H317
- Carcinogenicity (Category 2), H351
- Reproductive toxicity (Category 1B), H360
- Reproductive toxicity, effects on or via lactation, H362
- Specific target organ toxicity, repeated exposure (Category 1), H372
- Acute aquatic toxicity (Category 1), H400
- Chronic aquatic toxicity (Category 1), H410

GHS Label elements including precautionary statements

Pictogram:

Signal word: Danger

Hazard statements:
- H317 - May cause an allergic skin reaction.
- H351 - Suspected of causing cancer.
- H360 - May damage fertility or the unborn child.
- H362 - May cause harm to breast-fed children.
- H372 - Causes damage to organs through prolonged or repeated exposure.
- H400 - Very toxic to aquatic life.
- H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements:
- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P260 - Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
- P261 - Avoid breathing dust, fumes, gas, mist, vapors, spray.
- P263 - Avoid contact during pregnancy/ while nursing.
- P264 - Wash hands thoroughly after handling.
- P270 - Do not eat, drink, or smoke when using this product.
- P272 - Contaminated work clothing should not be allowed out of the workplace.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves, protective clothing, eye protection, face protection.
- P281 - Use personal protective equipment as required.
- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
- P308 + P313 - IF exposed or concerned: Get medical advice/ attention.
- P321 - Specific treatment (see supplemental 1st aid instructions on this label).
- P333 + P313 - IF SKIN irritation or rash occurs: Get medical advice/ attention.
- P363 - Wash contaminated clothing before reuse.
- P391 - Collect spillage. Hazardous to the aquatic environment.
- P405 - Store locked up.
- P501 - Dispose of contents/ container to an approved waste disposal plan

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

NFPA Rating:
- Health hazard: 2
- Flammability: 1
- Reactivity hazard 0

Potential Health Effects:
- Inhalation: May be harmful if inhaled. Causes respiratory tract irritation. Causes damage to organs through prolonged or repeated exposure.
- Skin: May be harmful in contact with skin. May cause skin irritation. May cause an allergic skin reaction.
- Eyes: May cause eye irritation. Ingestion: May be harmful 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_{26}H_{29}NO_{2}</td>
<td>387.51</td>
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<tr>
<td>CAS No.</td>
<td>82413-20-5</td>
<td>EC No. 428-010-4</td>
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</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 plenty of water for at least 15 minutes. Consult a physician.

**Skin Contact**
Wash off with plenty of soap and water. Consult a physician. Wash contaminated clothing before reuse.

**Inhalation**
Remove from exposure and provide respiration support if necessary. 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 available.

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

**Firefighting Procedures**
Wear self-contained breathing apparatus for firefighting if necessary.

**Unusual Fire Hazards**
Not known.

Section 6. Accidental Release Measures

**Personal Precautions**
Use personal protective equipment. 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**
Use appropriate tools to collect material and dispose of in a suitable waste container. Avoid raising dust. Sweep up and shovel into disposal containers.

Section 7. Handling and Storage

**Handling**
Wear personal protective equipment. Avoid contact with skin, eyes, and clothing. Avoid dust formation. Use in a well ventilated area. Use only in a chemical fume hood. Do not eat, drink, or smoke when using this product. Wash thoroughly after handling material. Remove and wash contaminated clothing before reuse.

**Storage Conditions**
Store in a cool, dry place in a tightly closed container. Recommended storage temperature: Ambient

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

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

**Personal protective equipment**

**EXPOSURE CONTROLS**
Contains no substances with occupational exposure limit values. Wash hands before breaks and at the end of workday.

**PERSONAL PROTECTION**

**Eye 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).

**Hand 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:** 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).

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**Section 9. Physical and Chemical Properties**

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

<table>
<thead>
<tr>
<th>Physical Property</th>
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<tbody>
<tr>
<td>Boiling Point</td>
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<td>Melting Point</td>
<td>127-129C</td>
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<td>Solubility</td>
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<td>Flash Point</td>
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<td>Lower explosion limit</td>
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<td>Upper explosion limit</td>
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<td>Water solubility</td>
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<td>Partition coefficient: n-octanol/water</td>
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<td>Odor</td>
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</tr>
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<td>Threshold</td>
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<tr>
<td>Odor Threshold</td>
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</tr>
<tr>
<td>Evaporation rate</td>
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</tr>
</tbody>
</table>

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**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.

**Inhalation LC50** Not available.

**Dermal LD50** Not available.

**Other information on acute toxicity** Not available.

**Skin corrosion/irritation** Not available.

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

**Respiratory or skin sensitization** Not available.

**Germ cell mutagenicity** Not available.

**Reproductive Toxicity** May damage fertility or the unborn child. May cause harm to breast-fed children.

**Aspiration Hazard** Not available.

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

**Synergistic effects** Not available.

**Specific organ toxicity repeated exposure (GHS)** Causes damage to organs through prolonged or repeated exposure.

**Additional Information** Not available.

**Teratogenicity** Not available.

**Signs and symptoms of exposure** Not available.

**Potential Health Effects**

- Inhalation: May be harmful or irritant. Causes respiratory tract irritation. Causes damage to organs through prolonged or repeated exposure.
- Skin: May be harmful in contact with skin. May cause skin irritation. May cause an allergic skin reaction.
- Eyes: May cause eye irritation. Ingestion: May be harmful if swallowed.
- Carcinogenicity: Suspected of causing cancer.
- Reproductive toxicity: May cause harm to breast-fed children. 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** Very toxic to aquatic life with long lasting effects.

**Mobility in soil** Not available.

**PBT and vPvB assessment** PBT/vPvB assessment not available as chemical safety assessment not required/not
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: 3077  
Class: 9  
Packing group: III  
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Droloxifene)

**IATA**

UN number: 3077  
Class: 9  
Packing group: III  
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Droloxifene)

**IMDG**

UN number: 3077  
Class: 9  
Packing group: III  
EMS-No: F-A, S-A  
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Droloxifene)

Section 15. Regulatory Information

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

**SARA 313 Components**  
SARA 313: 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, chronic health hazard

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

**Pennsylvania Right To Know Components**  
Droloxifene  
CAS #: 82413-20-5  
Revision Date:

**New Jersey Right To Know Components**  
Droloxifene  
CAS #: 82413-20-5  
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.