Section 1. Product and Company Identification

Product Name: Toremifene Base
Product ID: T5769
Chemical Name (Synonyms): Toremifene

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)
Serious eye damage (Category 1)

GHS Label elements including precautionary statements

Pictogram

Signal word: Danger

Hazard and precautionary statements
Hazard statements
H302 - Harmful if swallowed.
H318 - Causes serious eye damage.
Precautionary statements
P264 - Wash skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/ eye protection/ face protection.
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
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 - Immediately call a POISON CENTER or doctor/ physician.
P330 - Rinse mouth.
P501 - Dispose of contents/ container to an approved waste disposal plant

HMIS Classification
Health hazard: 2
Flammability: 0
Physical hazards: 0

NFPA Rating
Health Hazard: 2
Fire: 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.
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>$\text{C}<em>{26}\text{H}</em>{28}\text{ClNO}$</td>
<td>$\text{Formula Wt.}$: 405.96</td>
</tr>
<tr>
<td>CAS No.</td>
<td>89778-26-7</td>
<td>EC No.</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
Remove contact lenses. Flush with water for at least 15 minutes and seek medical attention immediately.

Skin Contact
Wash with soap and water for 15 minutes and seek medical attention immediately. Wash contaminated clothing before use.

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 available.

Extinguishing Media
Water spray, alcohol-resistant foam, dry chemical powder or carbon dioxide.

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

Unusual Fire Hazards
May emit toxic fumes under fire conditions.

Section 6. Accidental Release Measures

Personal Precautions
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental Precautions
Do not let product enter drains.

Methods and materials for containment and cleanup
Use appropriate tools to collect material and dispose of in waste container. Avoid raising dust. Ventilate the area and wash spill site after material has been removed.

Section 7. Handling and Storage

Handling
Wear gloves, goggles, and lab coat when handling this material. Use in a well ventilated area. Use only in a chemical fume hood. Wash thoroughly after handling material.

Storage Conditions
Store in a cool, dry place in a tightly closed container.

Hazardous Decomposition Products
Carbon monoxide, carbon dioxide, nitrogen oxides and hydrogen chloride gas.

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

**Personal protective equipment**

EXPOSURE CONTROLS
Contains no substances with occupational exposure limit values.

PERSONAL PROTECTION
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).

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.

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).

Skin 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.

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

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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>White</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point</td>
<td>108°C-110°C</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>Not available.</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>Not available.</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Not available.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
</tr>
<tr>
<td>Volatility</td>
<td>Not available.</td>
</tr>
<tr>
<td>Density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor Threshold</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 proper storage conditions.

**Materials To Avoid**
Keep away from heat and strong oxidizing agents.

**Hazardous Decomposition Products**
Carbon monoxide, carbon dioxide, nitrogen oxides and hydrogen chloride gas.
### Section 11. Toxicological Information

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

**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**: May be harmful if swallowed.

**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

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Result</th>
<th>Test Type</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity</td>
<td>Avoid release into the environment.</td>
<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>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Persistence and degradability Not available.  
Other adverse effects 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 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. (Toremifene)  
Marine pollutant: Yes

**IATA**

Not dangerous goods.

**IMDG**

Not dangerous goods.

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 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**

Toremifene Base  
CAS: 89778-26-7

**New Jersey Right To Know Components**

Toremifene Base  
CAS: 89778-26-7

**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.