Section 1. Product and Company Identification

Product Name: Acitretin
Product ID: A0933
Chemical Name (Synonyms): Neotigason; Soriatane
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 irritation (Category 2), H315
- Eye irritation (Category 2A), H319
- Reproductive toxicity (Category 1B), H360
- Acute aquatic toxicity (Category 1), H400
- Chronic aquatic toxicity (Category ), H410

GHS Label elements including precautionary statements

Pictogram

Signal word: Danger

Hazard and precautionary statements

Hazard statements
- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.
- H360 - May damage fertility or the unborn child.
- H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements
- P201 - Obtain special instruction before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P264 - Wash skin thoroughly after handling.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves, eye protection, and face protection.
- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P309 + P313 - IF exposed or concerned: Get medical advice/attention.
- P311 - Specific treatment (see supplemental first aid instructions on this label).
- P312 - If skin irritation occurs: Get medical advice/attention.
- P332 + P313 - If eye irritation persists: Get medical advice/attention.
- P337 + P313 - IF eye irritation occurs: Get medical advice/attention.
- P362 - Take off contaminated clothing and wash before reuse.
- P381 - Collect spillage.
- P405 - Store locked up.
- P501 - Dispose of contents/container to an approved waste disposal plant.

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

NFPA Rating
- Health hazard: 2
- Fire hazard: 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. Causes skin irritation.
- Eyes - May cause serious eye irritation.
**Section 3. Composition/Information on Ingredients**

<table>
<thead>
<tr>
<th>Substances</th>
<th>Ingredient: Title Compound</th>
<th>Percent:</th>
<th>Formula Wt.</th>
<th>EC No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula</td>
<td>C_{21}H_{26}O_{3}</td>
<td>326.43</td>
<td></td>
<td>259-474-4</td>
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<tr>
<td>CAS No.</td>
<td>55079-83-9</td>
<td></td>
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</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 as a precaution.

**Skin Contact**
Wash off with soap and plenty of water for at least 15 minutes and 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**
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**
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. Discharge into the environment must be avoided.

**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.

**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.

**Storage Conditions**
Keep container tightly closed in a dry and well-ventilated place. This product is light and moisture sensitive. Recommended storage temperature: -20˚C

**Hazardous Decomposition Products**
Not available.

**Other Remarks**
Ingestion - May be harmful if swallowed.
Reproductive toxicity - May damage fertility or the unborn child.
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. Full and splash contact - Material: Nitrile rubber. Minimum layer thickness: 0.11 mm. Break through time: 480 min. Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M).

Body protection: Impervious clothing. 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>
</thead>
<tbody>
<tr>
<td>Solid.</td>
<td>Yellow to green-yellow crystalline powder.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Color</td>
</tr>
<tr>
<td>Boiling Point</td>
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</tr>
<tr>
<td>Melting Point</td>
<td>228 - 230˚C</td>
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<tr>
<td>Solubility</td>
<td>Not available.</td>
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<tr>
<td>Flash Point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Autoignition temperature</td>
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</tr>
<tr>
<td>Water solubility</td>
<td>0.073 mg/L - Water at 25˚C</td>
</tr>
<tr>
<td>Odor</td>
<td>Not available.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow: 6.40</td>
</tr>
<tr>
<td>Relative vapor density</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
Strong oxidizing agents.

Hazardous Decomposition Products
Not available.
Section 11. Toxicological Information

**Oral LD50** Rat - > 4,000 mg/kg Gastrointestinal: hypermotility, diarrhea

**Inhalation LC50** Not available.

**Dermal LD50** Not available.

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

**Skin corrosion/irritation** Moderate skin irritation.

**Serious eye damage/irritation** Moderate eye irritation.

**Respiratory or skin sensitization** Not available.

**Germ cell mutagenicity** 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.

**Reproductive Toxicity** Presumed human reproductive toxicant.

**Aspiration Hazard** Not available.

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

**Synergistic effects** Not available.

**Additional Information** Not available.

**Teratogenicity** Not available.

**Signs and symptoms of exposure** Cough, wheezing, respiratory distress and diarrhea.

**Possibility of hazardous reactions** Not available.

**Conditions to avoid** Not available.

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Section 12. Ecological Information

**Toxicity**
- Acute aquatic toxicity and chronic aquatic toxicity.
- Toxicity to daphnia and other aquatic invertebrates.
- EC50 - Daphnia magna (Water flea) - < 0.2 mg/l - 48.0 h
- Toxicity to algae. EC50 - Dismodesmus subspicatus (green algae) -> 1.2 mg/l - 72.0 h.

**Mobility in soil** Not available.

**PBT and vPvB assessment** PBT/vPvB assessment not available as chemical safety assessment not required/not
Persistence and degradability
Biodegradability.

Bioaccumulative potential
Not available.

Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life.

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. (Acitretin)

IATA
UN number: 3077 Class: 9 Packing group: III
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (etretin)
Marine pollutant: Marine pollutant

IMDG
UN number: 3077 Class: 9 Packing group: III EMS #: F-A, S-F
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (etretin)
Marine pollutant: Marine pollutant

Further Information
EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kgs for solids.

Section 15. Regulatory Information

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

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

Pennsylvania Right To Know Components
Acitretin CAS #: 55079-83-9 Revision Date:

New Jersey Right To Know Components
Acitretin CAS #: 55079-83-9 Revision Date:

California Prop 65 Components
This product does not contain any chemicals known to the 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.