Section 1. Product and Company Identification

Product Name: Estriol
Product ID: E7377
Chemical Name (Synonyms): Aacifemine; Colpogyn; Destriol; Oekolp; Ovesterin; Theelol; Tridestrin
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
Carcinogenicity (Category 2), H351
Reproductive toxicity (Category 1B), H360

GHS Label elements including precautionary statements

Pictogram
Signal word: Danger
Hazard statements
H351 - Suspected of causing cancer.
H360 - May damage fertility or the unborn child.
Precautionary statements
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P281 - Use personal protective equipment as required.
P308 + P313 - IF exposed or concerned: Get medical advice/attention.
P405 - Store locked up.
P501 - Dispose of contents/container to an approved waste disposal plant.

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

NFPA Rating
Health hazard: 0
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. May cause skin irritation.
Eyes - May cause eye irritation.
Ingestion - May be harmful if swallowed. Carcinogenicity: Suspected of causing cancer. Reproductive toxicity: May damage fertility or the unborn child.

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_{18}H_{24}O_{3}</td>
<td>288.38</td>
</tr>
<tr>
<td>CAS No.</td>
<td>50-27-1</td>
<td>EC No. 200-022-2</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 as a precaution.

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
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
Not available.

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
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. Normal measures for preventive fire protection.

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

Hazardous Decomposition Products
Hazardous decomposition products formed under fire conditions. - Carbon oxides.

Other Remarks
### 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 N99 (US) or type P2 (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).

### 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 or almost white crystal powder.</td>
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<table>
<thead>
<tr>
<th>Boiling Point</th>
<th>Volatility</th>
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<tbody>
<tr>
<td>Not available.</td>
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<tr>
<th>Melting Point</th>
<th>Density</th>
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<tbody>
<tr>
<td>282°C</td>
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<table>
<thead>
<tr>
<th>Solubility</th>
<th>pH</th>
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</thead>
<tbody>
<tr>
<td>Soluble in alcohol, dioxane, chloroform, ether, vegetable oils, pyridine or fixed alkali hydroxide solutions.</td>
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</table>

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

<table>
<thead>
<tr>
<th>Lower explosion limit</th>
<th>Autoignition temperature</th>
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<tbody>
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<td>Not available.</td>
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</table>

<table>
<thead>
<tr>
<th>Upper explosion limit</th>
<th>Vapor pressure</th>
</tr>
</thead>
<tbody>
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<td>Not available.</td>
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</table>

<table>
<thead>
<tr>
<th>Water solubility</th>
<th>Odor</th>
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<tbody>
<tr>
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<td>Not available.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Partition coefficient: n-octanol/water</th>
<th>Odor Threshold</th>
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<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
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</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>

### Section 10. Stability and Reactivity

**Stability**

Stable under recommended storage conditions.

**Materials To Avoid**

Strong oxidizing agents.

**Hazardous Decomposition Products**

Hazardous decomposition products formed under fire conditions, - Carbon oxides.
Section 11. Toxicological Information

Oral LD50  Rat - > 2,000 mg/kg

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  Presumed human reproductive toxicant. May cause reproductive disorders.

Aspiration Hazard  Not available.

Synergistic effects  Not available.

Specific organ toxicity single exposure (GHS)  Not available.

Specific organ toxicity repeated exposure (GHS)  Not available.

Teratogenicity  Not available.

Additional Information  RTECS: KG8225000  Not available.

Signs and symptoms of exposure  Stomach - irregularities - based on human evidence

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: Suspected of causing cancer. Reproductive toxicity: May damage fertility or the unborn child.

Carcinogenicity  There is limited evidence for the carcinogenicity of estriol in experimental animals. Studies in humans strongly suggest that the administration of estrogens is causally related to an increased incidence of endometrial carcinoma; there is no evidence that estriol is different from other estrogens in this respect. Limited evidence of carcinogenicity in animal studies.

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: Known to be human carcinogen (Estriol).

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  Not available.

Mobility in soil  Not available.

PBT and vPvB assessment  Not available as 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. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Section 14. Transport Information

**DOT (US)**

Not dangerous goods.

**IATA**

Not dangerous goods.

**IMDG**

Not dangerous goods.

Further Information

Section 15. Regulatory Information

**Reach No.**

**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**

Chronic health hazard.

**Massachusetts Right To Know Components**

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

**Pennsylvania Right To Know Components**

Estriol CAS #: 50-27-1 Revision Date: 2009-07-17

**New Jersey Right To Know Components**

Estriol CAS #: 50-27-1 Revision Date: 2009-07-17

**California Prop 65 Components**

WARNING! This product contains a chemical known to the State of California to cause cancer. Estriol CAS #: 50-27-1 Revision Date: 2007-09-28

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.