Section 1. Product and Company Identification

Product Name: 2-Methoxyestradiol
Product ID: M1678
Chemical Name (Synonyms): 2-Hydroxyestradiol 2-methyl ether, 2-Methoxyestradiol-17β, Panzem

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 3) H301
- Acute toxicity, Inhalation (Category 3) H331
- Acute toxicity, Skin (Category 3) H311
- Skin irritation (Category 2) H315
- Eye irritation (Category 2A) H319
- Carcinogenicity (Category 1B) H350
- Reproductive toxicity (Category 1B) H360
- Specific target organ toxicity - single exposure (Category 3) Respiratory system, H335
- Specific target organ toxicity - repeated exposure (Category 1) H372
- Acute aquatic toxicity (Category 1) H400
- Chronic aquatic toxicity (Category 1) H410

Pictogram:

Signal word: Danger

Hazard statements:
H301 + H311 + H331 - Toxic if swallowed, in contact with skin or if inhaled.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.
H350 - May cause cancer.
H360 - May damage fertility or the unborn child.
H372 - Causes damage to organs through prolonged or repeated exposure.
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.
P260 - Do not breathe dust, fumes, gas, mist, vapors, spray.
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.
P273 - Avoid release to the environment.
P301 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302 - 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.
P308 - IF EXPOSED OR CONCERNED: Get medical advice/attention.
P330 - Rinse mouth.
P332 + P338 - IF SKIN IRRITATION occurs: Get medical advice/attention.
P361 - Remove/Take off immediately all contaminated clothing.
P405 - Store locked up.
P904 - Protect clothing.
P905 + P906 - Collect spillage.
P907 + P908 - If spilled on skin wash with plenty of soap and water.
P909 + P910 - If spilled on clothing remove clothing immediately and wash.
P911 - Collect spillage.
P912 - Store in a well-ventilated place. Keep container tightly closed.
P913 + P914 - Store in a cool place. Keep container tightly closed.
P915 - 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 - Acute toxicity. Toxic if inhaled. May cause respiratory tract irritation.
Skin - Acute toxicity. Toxic in contact with skin. Causes skin irritation.
Eyes - Causes serious 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>{19}\text{H}</em>{26}\text{O}_3 )</td>
<td>302.41</td>
</tr>
<tr>
<td>CAS No.</td>
<td>362-07-2</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
Flush eyes with plenty of water for at least 15 minutes and consult a physician.

Skin Contact
Wash off with soap and plenty of water. Take victim immediately to hospital. 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
Wear respiratory protection. 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. Recommended storage temperature: -20°C

Hazardous Decomposition Products
Not available.

Other Remarks
Section 8. Exposure Controls/Personal Protection

**Personal protective equipment**

**EXPOSURE CONTROLS**
Contains no substances with occupational exposure limit values. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

**PERSONAL PROTECTION**

**Eye/face 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:** 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:** 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>
</thead>
<tbody>
<tr>
<td>Synthetic solid.</td>
<td>White to off-white crystalline powder.</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>464.4°C</td>
</tr>
<tr>
<td>Melting Point</td>
<td>188-190°C</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in DMSO or ethanol.</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>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>

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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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oral LD50</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Inhalation LC50</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Dermal LD50</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Other information on acute toxicity</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Skin corrosion/irritation</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Serious eye damage/irritation</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Respiratory or skin sensitization</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Germ cell mutagenicity</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Reproductive Toxicity</strong></td>
<td>Presumed human reproductive toxicant.</td>
</tr>
<tr>
<td><strong>Teratogenicity</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Specific organ toxicity single exposure (GHS)</strong></td>
<td>Inhalation - May cause respiratory irritation.</td>
</tr>
<tr>
<td><strong>Specific organ toxicity repeated exposure (GHS)</strong></td>
<td>Causes damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td><strong>Aspiration Hazard</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Synergistic effects</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Additional Information</strong></td>
<td>RTECS: KG7537500</td>
</tr>
</tbody>
</table>

#### Potential Health Effects
- **Inhalation**: Acute toxicity. Toxic if inhaled. May cause respiratory tract irritation.
- **Skin**: Acute toxicity. Toxic in contact with skin. Causes skin irritation.
- **Eyes**: Causes serious eye irritation.
- **Ingestion**: Acute toxicity. Toxic if swallowed.
- **Carcinogenicity**: May cause cancer.

#### 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>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toxicity</strong></td>
<td>Chronic aquatic toxicity.</td>
</tr>
<tr>
<td><strong>Mobility in soil</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>PBT and vPvB</strong></td>
<td>PBT/vPvB assessment not available as chemical safety assessment not required/not...</td>
</tr>
</tbody>
</table>
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)
UN number: 2811 Class: 6.1 Packing Group: III
Proper shipping name: Toxic solid, organic, n.o.s. (2-Methoxyestradiol)
Marine pollutant: No Poison inhalation hazard: No

IATA
UN number: 2811 Class: 6.1 Packing Group: III
Proper shipping name: Toxic solid, organic, n.o.s. (2-Methoxyestradiol)

IMDG
UN number: 2811 Class: 6.1 Packing Group: III EMS NO: F-A, S-A
Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (2-Methoxyestradiol)
Marine pollutant: No

Further Information

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, chronic health hazard.

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

Pennsylvania Right To Know Components
2-Methoxyestradiol CAS #: 362-07-2 Revision Date:

New Jersey Right To Know Components
2-Methoxyestradiol CAS #: 362-07-2 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.
Updated 1/29/2019

For emergencies in the USA, call CHEMTREC 800-424-9300