1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Estradiol
Product Number: E1253
Brand: Sigma
Product Use: For laboratory research purposes.
Supplier: Sigma-Aldrich
Manufacturer: Sigma-Aldrich Corporation
3050 Spruce Street
Saint Louis, Missouri 63103
USA
Telephone: +1 800-325-5832
Fax: +1 800-325-5652
Emergency Phone #: For both supplier and manufacturer
(prepared with information provided by the manufacturer)
Preparation Information: Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8889

2. HAZARDS IDENTIFICATION

Emergency Overview
OSHA Hazards
Target Organ Effect: Carcinogenic, Reproductive hazard
Target Organs: Female reproductive system.
GHS Classification
Acute toxicity, Oral (Category 5)
Carcinogenicity (Category 2)
Reproductive toxicity (Category 1B)
GHS Label elements, including precautionary statements
Pictogram
Signal word: Danger
Hazard statement(s)
H353: May be harmful if swallowed.
H351: Suspected of causing cancer.
H360: May damage fertility or the unborn child.
Precautionary statement(s)
P201: Obtain special instructions before use.
P200: Use personal protective equipment as required.
P305 + P313: IF exposed or concen: Get medical advice/attention.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: 3,16α,17β-Trihydroxy-1,5(10)-estratrien
18α-Hydroxyestradiol
1,3,5(10)-Estratrien 3,11α,17β-triol
Formula: C_{18}H_{22}O_{3}
Molecular Weight: 288.38 g/mol
CAS No.: 50-27-1
EC No.: 200-022-2
Index No.: -
Concentration: -

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Inhalation
If inhaled: Move into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact
Wash with soap and plenty of water. Consult a physician.
In case of eye contact
Flush eyes with water as a precaution.
If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special protective equipment for fire-fighters
Wear self-contained breathing apparatus for fire fighting if necessary.
Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Carbon oxides

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
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
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<tr>
<td>Precautions for safe handling and storage</td>
<td>Respiratory protection:</td>
<td>Appearance</td>
<td>10.1. TOXICOLOGICAL INFORMATION</td>
</tr>
<tr>
<td>Avoid formation of dust and smoke. Provide appropriate respiratory equipment such as an N95 or P100 type particulate respirator, or an appropriate mask with a high efficiency particulate air (HEPA) filter. Personal protective equipment (PPE) should be worn when handling this material.</td>
<td>Skin protection:</td>
<td>Odor</td>
<td>Acute toxicity</td>
</tr>
<tr>
<td>Keep container tightly closed in a dry and well-ventilated place.</td>
<td>Eye protection:</td>
<td>Odor threshold</td>
<td>Inhalation LC50</td>
</tr>
<tr>
<td>Precautions for safe storage</td>
<td>Hand protection:</td>
<td>Material</td>
<td>Oral:</td>
</tr>
<tr>
<td>Avoid formation of dust and smoke. Provide appropriate respiratory equipment such as an N95 or P100 type particulate respirator, or an appropriate mask with a high efficiency particulate air (HEPA) filter. Personal protective equipment (PPE) should be worn when handling this material.</td>
<td>Skin contact:</td>
<td>Material</td>
<td>Dermal LD50</td>
</tr>
<tr>
<td>Keep container tightly closed in a dry and well-ventilated place.</td>
<td>Hand protection:</td>
<td>Material</td>
<td>Skin damage due to irritation</td>
</tr>
</tbody>
</table>

**10. STABILITY AND REACTIVITY**

- **Stability:** Stable under recommended storage conditions.
- **Reactivity:** Stable under recommended storage conditions.
- **Conditions to avoid:** Strong oxidizing agents, strong alkaline or acid solutions.
- **Decomposition products:** No data available.
- **Other decomposition products:** No data available.
- **Exposure to water:** No data available.
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
May cause reproductive disorders.

Teratogenicity

Presumed human reproductive toxicant

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available

Aspiration hazard
no data available

Potential health effects

Inhalation
May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion
May be harmful if swallowed.

Skin
May be harmful if absorbed through skin. May cause skin irritation.

Eyes
May cause eye irritation.

Synergistic effects

no data available

Additional Information
RTECS: K0821000

12. ECOCLOGICAL INFORMATION

Toxicity
no data available

Persistence and degradability
no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards
Target Organ Effect, Carcinogen, Reproductive hazard

DSL Status
All components of this product are on the Canadian DSL list.

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 (Da Minilis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Chronic Health Hazard

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

Pennsylvania Right To Know Components

New Jersey Right To Know Components

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.

16. OTHER INFORMATION

Further information
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