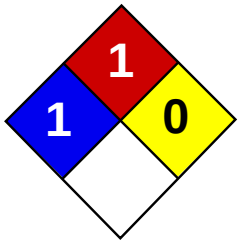


| | |
|---|---|
| Health | 1 |
| Fire | 1 |
| Reactivity | 0 |
| Personal Protection | E |

# Material Safety Data Sheet
## Estradiol, milled powder MSDS

## Section 1: Chemical Product and Company Identification

**Product Name:** Estradiol, milled powder

**Catalog Codes:** SLE1168

**CAS#:** 50-28-2

**RTECS:** KG2975000

**TSCA:** TSCA 8(b) inventory: No products were found.

**CI#:** Not available.

**Synonym:** Altrad, Bardiol, Dihydrofolliculin, Dihydroexyestrin, Estraldine, Estrovite, Femestral, Gynergon, Gynestrel, Lamidiol, Macrodiol, Oestradiol, Oestroglandol, Ovasterol, Primofol, Profoliol, Progynon; Estra-1,3,5(10)-triene-3,17alpha-diol; 1,3,5-Estratriene-3,17-beta-diol; 17-beta-Estra-1,3,5(10)-triene-3,17-diol; 17-beta-Estradiol; 17-beta-Oestra-1,3,5(10)-triene-3,17-diol; 17-beta-OH-estradiol; 17-beta-OH-oestradiol; 3,17-beta-Dihydroxy-1,3,5(10)-estratriene; 3,17-beta-Dihydroxy-1,3,5(10)-oestratriene; 3,17-beta-Dihydroxyestra-1,3,5(10)-triene; 3,17-beta-Dihydroxyoestra-1,3,5-triene; 3,17-beta-Estradiol

**Chemical Name:** Estradiol

**Chemical Formula:** C18H24O2

**Contact Information:**

**Sciencelab.com, Inc.**
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

**CHEMTREC (24HR Emergency Telephone), call:** 1-800-424-9300

**International CHEMTREC, call:** 1-703-527-3887

**For non-emergency assistance, call:** 1-281-441-4400

## Section 2: Composition and Information on Ingredients

**Composition:**

| Name | CAS # | % by Weight |
|---|---|---|
| Estradiol | 50-28-2 | 100 |

**Toxicological Data on Ingredients:** Estradiol LD50: Not available. LC50: Not available.

## Section 3: Hazards Identification

**Potential Acute Health Effects:** Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

**Potential Chronic Health Effects:**

CARCINOGENIC EFFECTS: Classified 2A (Probable for human.) by IARC. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Classified POSSIBLE for human. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [PROVEN]. The substance is toxic to the reproductive system. Repeated or prolonged exposure to the substance can produce target organs damage.

## Section 4: First Aid Measures

**Eye Contact:**
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

**Skin Contact:** Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

**Serious Skin Contact:** Not available.

**Inhalation:**
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Serious Inhalation:** Not available.

**Ingestion:**
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

**Serious Ingestion:** Not available.

## Section 5: Fire and Explosion Data

**Flammability of the Product:** May be combustible at high temperature.

**Auto-Ignition Temperature:** Not available.

**Flash Points:** Not available.

**Flammable Limits:** Not available.

**Products of Combustion:** These products are carbon oxides (CO, CO2).

**Fire Hazards in Presence of Various Substances:**
Slightly flammable to flammable in presence of heat. Non-flammable in presence of shocks.

**Explosion Hazards in Presence of Various Substances:**
Risks of explosion of the product in presence of mechanical impact: Not available. Slightly explosive in presence of open flames and sparks.

**Fire Fighting Media and Instructions:**
SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

**Special Remarks on Fire Hazards:** Material in powder form, capable of creating a dust explosion.

**Special Remarks on Explosion Hazards:**
Fine dust dispersed in air in sufficient concentrations, and in the presences of an ignition source is a potential dust explosion hazard.

## Section 6: Accidental Release Measures

**Small Spill:**
Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill:**
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

## Section 7: Handling and Storage

**Precautions:**
Keep locked up.. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe dust. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible. Keep away from incompatibles such as oxidizing agents.

**Storage:**
Keep container tightly closed. Keep container in a cool, well-ventilated area. Sensitive to light. Store in light-resistant containers.

## Section 8: Exposure Controls/Personal Protection

**Engineering Controls:**
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:** Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:**
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Not available.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Solid. (Hygroscopic crystals. crystalline powder.)

**Odor:** Odorless.

**Taste:** Not available.

**Molecular Weight:** 272.39 g/mole

**Color:** White. Off-white.

**pH (1% soln/water):** Not applicable.

**Boiling Point:** Not available.

**Melting Point:** 173°C (343.4°F) - 179 C

**Critical Temperature:** Not available.

**Specific Gravity:** Not available.

**Vapor Pressure:** Not applicable.

**Vapor Density:** Not available.

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** Not available.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** Not available.

**Solubility:** Insoluble in cold water.

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Excessive heat, dust generation, light, moisture, incompatible materials.

**Incompatibility with various substances:** Reactive with oxidizing agents.

**Corrosivity:** Non-corrosive in presence of glass.

**Special Remarks on Reactivity:** Protect from light and moisture

**Special Remarks on Corrosivity:** Not available.

**Polymerization:** Will not occur.

## Section 11: Toxicological Information

**Routes of Entry:** Inhalation. Ingestion.

**Toxicity to Animals:**
LD50: Not available. LC50: Not available.

**Chronic Effects on Humans:**
CARCINOGENIC EFFECTS: Classified 2A (Probable for human.) by IARC. TERATOGENIC EFFECTS: Classified POSSIBLE for human. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [PROVEN]. Causes damage to the following organs: the reproductive system.

**Other Toxic Effects on Humans:** Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:**
May cause adverse reproductive effects and birth defects (teratogenic). May cause cancer. Estrogens have been reported to incease the risk of endometrial, uterine, and breast cancer. May affect genetic material (mutagenic).

**Special Remarks on other Toxic Effects on Humans:**
Acute Potential Health Effects: Skin: May cause skin irritation. Eyes: May cause eye irritation. Inhalation: Avoid inhalation. May cause respiratory tract irritation and system effects. Ingestion: A single overdose of Estradiol is unlikely to cause toxic effects. It may cause gastrointestinal tract irritation with abdominal cramps, nausea and vomiting. This material is readily absorbed from the gastrointestinal tract. Chronic Potential Health Effects: Ingestion: Prolonged or repeated ingestion may have the following adverse effects: skin reactions (Chloasma, or melasma, erythema multiforme, erythema nodosum, hemorrhagic eruption , loss of scalp hair), increase in blood pressure, bloating, jaundice (yellow eyes or skin), Central Nervous System effects (headache, migraine, dizziness, mental depression), steepening of corneal curvature, weight gain or loss, increase of gallbladder disease, reduced carbohydrate tolerance, change in sex drive, loss of appetite, intolerance to contact lenses, swelling due to fluid and salt retention, aggravation of porphyria. Women may develop full or tender breasts and disturbed menstrual cycle (breakthrough spotting, change in menstrual flow), increase in size of uterine fibromyomata., change in cervical erosion and amount of cervical secretion. Men may experience breast enlargement and other feminizing effects. These changes in secondary sexual characteristics are fully reversible upon cessation of exposure. Hypersensitivity (anaphylactic) reactions may also occur. Medical conditons aggravated by exposure: Hypersensitivity to material, known or suspected breast cancer, known or suspected estrogen-dependent neoplasia, undiagnosed or abnormal genital bleeding, active thrombophlebitis and/or thromboembolic disorders. Pregnant women should not be exposed. There may be an association between intrauterine exposure to female sex hormones and congential anomalies.

## Section 12: Ecological Information

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:**
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The product itself and its products of degradation are not toxic.

**Special Remarks on the Products of Biodegradation:** Not available.

## Section 13: Disposal Considerations

**Waste Disposal:**
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## Section 14: Transport Information

**DOT Classification:** Not a DOT controlled material (United States).

**Identification:** Not applicable.

**Special Provisions for Transport:** Not applicable.

## Section 15: Other Regulatory Information

**Federal and State Regulations:**
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Estradiol California prop. 65 (no significant risk level): Estradiol: 0.00002 mg/day. California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Estradiol Pennsylvania RTK: Estradiol Minnesota: Estradiol Massachusetts RTK: Estradiol New Jersey: Estradiol California Director's List of Hazardous substances: Estradiol

**Other Regulations:**
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

**Other Classifications:**

**WHMIS (Canada):** Not controlled under WHMIS (Canada).

**DSCL (EEC):**
R45- May cause cancer. R60- May impair fertility. R63- Possible risk of harm to the unborn child. S2- Keep out of the reach of children. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S53- Avoid exposure - obtain special instructions before use.

**HMIS (U.S.A.):**

**Health Hazard:** 1

**Fire Hazard:** 1

**Reactivity:** 0

**Personal Protection:** E

**National Fire Protection Association (U.S.A.):**

**Health:** 1

**Flammability:** 1

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:**
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Safety glasses.

## Section 16: Other Information

**References:** Not available.

**Other Special Considerations:** Not available.

**Created:** 10/10/2005 12:42 AM

**Last Updated:** 11/06/2008 12:00 PM

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