

## Section 1: Identification

|                                   |                                                                                                            |                                                                         |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| <b>Common Name/Trade Name</b>     | ESTRADIOL USP (HEMIHYDRATE)                                                                                |                                                                         |
| <b>Supplier Information</b>       | Letco Medical, LLC<br>1316 Commerce Drive NW<br>Decatur, AL 35601<br>1 (800) 239-5288<br>+1 (734) 843-4693 | <b>IN CASE OF EMERGENCY:</b><br>Chemtrec<br>1 (800) 424-9300 (24 hours) |
| <b>Product Synonym(s)</b>         | N/A                                                                                                        |                                                                         |
| <b>Relevant Use(s) of Product</b> | Manufacture or Compounding of Substances                                                                   |                                                                         |

## Section 2: Hazards Identification

|                                               |                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Classification of Substance or Mixture</b> | Carc. 1B, Repr. 1B, STOT RE 1, Lact                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Signal Word</b>                            | Danger                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Hazard Statement(s)</b>                    | H350<br>H360<br>H362<br>H372                                                      | May cause cancer<br>May damage fertility or the unborn child<br>May cause harm to breast-fed children<br>Causes damage to organs through prolonged or repeated exposure                                                                                                                                                                                                                                                                        |
| <b>Pictogram(s)</b>                           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Precautionary Statement(s)</b>             | P201<br>P202<br>P260<br>P263<br>P264<br>P281<br>P314<br>P501                      | Obtain special instructions before use.<br>Do not handle until all safety precautions have been read and understood.<br>Do not breathe dust/fume/gas/mist/vapours/spray.<br>Avoid contact during pregnancy/while nursing.<br>Wash hands thoroughly after handling.<br>Use personal protective equipment as required.<br>Get Medical advice/attention if you feel unwell.<br>Dispose of contents/container to an approved waste disposal plant. |
| <b>Hazards Not Otherwise Classified</b>       | Exposure may produce an allergic reaction.                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Ingredient(s) with Unknown Toxicity</b>    | No data available                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## Section 3: Composition/Information on Ingredients

|                                                |                             |
|------------------------------------------------|-----------------------------|
| <b>Chemical Name</b>                           | Estradiol Hemihydrate       |
| <b>Common Name</b>                             | Estradiol USP (Hemihydrate) |
| <b>CAS Number</b>                              | 35380-71-3                  |
| <b>Impurities and/or Stabilizing Additives</b> | No data available           |

## Section 4: First Aid Measures

|                                            |                                                                                                                                                                                                                                           |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General Advice</b>                      | If you feel unwell, seek medical advice (show the label where possible). Delayed adverse effects possible.                                                                                                                                |
| <b>If Inhaled</b>                          | Move to fresh air in case of accidental inhalation. Assure fresh air breathing. Obtain medical attention if breathing difficulty persists.                                                                                                |
| <b>In Case of Skin Contact</b>             | Rinse skin with water/shower. Wash with plenty of soap and water.                                                                                                                                                                         |
| <b>In Case of Eye Contact</b>              | Rinse with water while holding the eyes wide open. Contact lenses should be removed. Obtain medical attention if pain, blinking or redness persist.                                                                                       |
| <b>If Swallowed</b>                        | Rinse mouth out with water. The following symptoms may occur: (see section(s): 2, 4.2). If you feel unwell, seek medical advice. Prolonged medical observation may be indicated. (See section(s): 4.3).                                   |
| <b>Most Important Symptoms and Effects</b> | See Heading 2. Indication of any immediate medical attention and special treatment needed in all cases of doubt, or when symptoms persist, seek medical attention. If possible show this sheet, if not available show packaging or label. |

## Section 5: Fire Fighting Measures

|                                                           |                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b>                       | Suitable extinguishing media Small amounts: Use extinguishing media appropriate for surrounding fire. Extinguishing blanket. Carbon dioxide. Dry powder. Large amounts: Not applicable. Unsuitable extinguishing media: Water may be ineffective in firefighting due to low solubility. |
| <b>Special Hazards Arising From the Substance/Mixture</b> | No additional information available                                                                                                                                                                                                                                                     |
| <b>Special PPE and/or Precautions for Firefighters</b>    | Small amounts: Use normal individual fire protective equipment. Large amounts: Not applicable.                                                                                                                                                                                          |

## Section 6: Accidental Release Measures

|                                                                            |                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal Precautions, Protective Equipment and Emergency Procedures</b> | Avoid raising dust. Wear suitable protective clothing, gloves and eye or face protection. Avoid any direct contact with the product. Evacuate unnecessary personnel. Large amounts: Not applicable.                                                                                                                                                                                        |
| <b>Methods and Materials Used for Containment</b>                          | Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection. Wear suitable protective clothing and gloves.                                                                                                                                                                                                                                 |
| <b>Cleanup Procedures</b>                                                  | Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Ensure waste is collected and contained. Clean thoroughly. Poorly soluble in water. Clean with the help of detergents. Collect all waste in suitable and labelled containers and dispose according to local legislation. Wash the non-recoverable remainder with: Sodium hypochlorite solution. |

## Section 7: Handling and Storage

|                                      |                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Precautions for Safe Handling</b> | Handle and open container with care. See Heading 8. Do not handle until all safety precautions have been read and understood. Avoid any direct contact with the product. Obtain special instructions before use. Handle in accordance with good industrial hygiene and safety procedures. Small amounts: Material should be handled in a laboratory hood whenever possible. |
| <b>Conditions for Safe Storage</b>   | Comply with applicable regulations. To guarantee the quality and properties of the product, keep: dry, Keep in a cool, well-ventilated place away from heat. Store in original container. Store according to local legislation. Incompatible products Strong oxidizing agents.                                                                                              |

## Section 8: Exposure Controls/Personal Protection

|                                                     |                                                                                                                                                                 |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Components with Workplace Control Parameters</b> | No additional information available                                                                                                                             |
| <b>Appropriate Engineering Controls</b>             | Material should be handled in a laboratory hood whenever possible. Gloves. Safety glasses. Protective clothing. Dust production: dust mask with filter type P3. |
| <b>PPE - Eye/Face Protection</b>                    | Wear eye protection. DIN EN 166.                                                                                                                                |
| <b>PPE - Skin Protection</b>                        | Gloves. Chemical resistant PVC gloves (to European standard EN 374 or equivalent). Lab coat. Wear suitable protective clothing. DIN EN 13034.                   |
| <b>PPE - Body Protection</b>                        | Lab coat. Wear suitable protective clothing. DIN EN 13034.                                                                                                      |
| <b>PPE - Respiratory Protection</b>                 | Quarter mask (DIN EN 140). Wear appropriate breathing apparatus if air renewal not sufficient to maintain dust/vapour under TLV.                                |

## Section 9: Physical and Chemical Properties

|                                                     |                                                               |
|-----------------------------------------------------|---------------------------------------------------------------|
| <b>Appearance</b>                                   | White or creamy white, small crystals or crystalline powder   |
| <b>Upper/Lower Flammability or Explosive Limits</b> | No data available                                             |
| <b>Odor</b>                                         | Odorless                                                      |
| <b>Vapor Pressure</b>                               | No data available                                             |
| <b>Odor Threshold</b>                               | No data available                                             |
| <b>Vapor Density</b>                                | No data available                                             |
| <b>pH</b>                                           | No data available                                             |
| <b>Relative Density</b>                             | No data available                                             |
| <b>Melting Point/Freezing Point</b>                 | 173 - 179 °C                                                  |
| <b>Solubility</b>                                   | Soluble in dioxane, in acetone, sparingly soluble in ethanol. |
| <b>Initial Boiling Point and Boiling Range</b>      | No data available                                             |
| <b>Flash Point</b>                                  | No data available                                             |
| <b>Evaporation Rate</b>                             | No data available                                             |
| <b>Flammability (Solid, Gas)</b>                    | No data available                                             |
| <b>Partition Coefficient</b>                        | Log Pow 3,94 at 20°C (6.10)                                   |
| <b>Auto-Ignition Temperature</b>                    | No data available                                             |
| <b>Decomposition Temperature</b>                    | No data available                                             |
| <b>Viscosity</b>                                    | No data available                                             |

## Section 10: Stability and Reactivity

|                                           |                                                                                                                                                                                                                |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reactivity</b>                         | Stable under normal conditions.                                                                                                                                                                                |
| <b>Chemical Stability</b>                 | No additional information available                                                                                                                                                                            |
| <b>Possibility of Hazardous Reactions</b> | Small amounts: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us. Large amounts: Not applicable. |
| <b>Conditions to Avoid</b>                | No additional information available                                                                                                                                                                            |
| <b>Incompatible Materials</b>             | Small amounts: None under normal use. Large amounts: Not applicable.                                                                                                                                           |
| <b>Hazardous Decomposition Products</b>   | When heated to decomposition, emits dangerous fumes. Large amounts: Not applicable.                                                                                                                            |

## Section 11: Toxicological Information

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|-----------------------------------------------------------|-------------------------------------------------------------------------------------------|
| <b>Acute Toxicity - LD50 Oral</b>                         | Not classified                                                                            |
| <b>Acute Toxicity - Inhalation</b>                        | No data available                                                                         |
| <b>Acute Toxicity - Dermal</b>                            | No data available                                                                         |
| <b>Acute Toxicity - Eye</b>                               | No data available                                                                         |
| <b>Skin Corrosion/Irritation</b>                          | Not classified                                                                            |
| <b>Serious Eye Damage/Irritation</b>                      | Not classified                                                                            |
| <b>Respiratory or Skin Sensitization</b>                  | Not classified                                                                            |
| <b>Germ Cell Mutagenicity</b>                             | Not classified                                                                            |
| <b>Carcinogenicity IARC</b>                               | May cause cancer.                                                                         |
| <b>Carcinogenicity ACGIH</b>                              | May cause cancer.                                                                         |
| <b>Carcinogenicity NTP</b>                                | May cause cancer.                                                                         |
| <b>Carcinogenicity OSHA</b>                               | May cause cancer.                                                                         |
| <b>Reproductive Toxicity</b>                              | May damage fertility. May damage the unborn child. May cause harm to breast-fed children. |
| <b>Specific Target Organ Toxicity - Single Exposure</b>   | Not classified                                                                            |
| <b>Specific Target Organ Toxicity - Repeated Exposure</b> | Causes damage to organs through prolonged or repeated exposure.                           |
| <b>Aspiration Hazard</b>                                  | Not classified                                                                            |

## Section 12: Ecological Information

|                                      |                                                                                                                                                                            |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Toxicity</b>                      | Small amounts: See Heading 2. Poorly soluble in water. No data available on ecotoxicity. Hazardous waste. Use suitable disposal containers. Large amounts: Not applicable. |
| <b>Persistence and Degradability</b> | No additional information available                                                                                                                                        |
| <b>Bio-accumulative Potential</b>    | Log Pow 3.94 at 20°C (6.10)                                                                                                                                                |
| <b>Mobility in Soil</b>              | No additional information available                                                                                                                                        |
| <b>Other Adverse Effects</b>         | No additional information available                                                                                                                                        |

## Section 13: Disposal Considerations

|                                                      |                                                                                                                      |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>Waste Treatment Methods Product</b>               | Dispose in a safe manner in accordance with local/national regulations.                                              |
| <b>Waste Treatment Methods Packaging</b>             | Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point. |
| <b>Special Precautions Landfill or Incinerations</b> | No data available                                                                                                    |
| <b>Other Information</b>                             | No data available                                                                                                    |

## Section 14: Transport Information

|                                   |                      |
|-----------------------------------|----------------------|
| <b>UN Number</b>                  | Not dangerous goods. |
| <b>UN Proper Shipping Name</b>    | N/A                  |
| <b>Transport Hazard Class(es)</b> | N/A                  |
| <b>Packaging Group</b>            | N/A                  |
| <b>Environmental Hazards</b>      | N/A                  |

## Section 15: Regulatory Information

No data available.

## Section 16: Other Information

|                               |                  |
|-------------------------------|------------------|
| <b>Additional Information</b> | N/A              |
| <b>Prepared By</b>            | Scarlotte Smith  |
| <b>Revision Date</b>          | 10/27/2016 15:29 |

### Disclaimer

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