

MATERIAL SAFETY DATA SHEET

SECTION 1-PRODUCT AND COMPANY IDENTIFICATION

Product Name: Estradiol Hemihydrate

Company: Beijing Zizhu Tiangong Science and Technology Co., Ltd.

Address: No. 27, Chaoyang North Road, Chaoyang District, Beijing, China

TEL: +86-10-62279773

SECTION 2-HAZARD INFORMATION

Target Organs: Female and male reproductive system.

Emergency Overview: May cause cancer

Potential Health Effect:

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

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

Eye: May cause eye irritation.

Ingestion: May be harmful if swallowed.

SECTION 3-COMPOSITION/INFORMATION ON INGREDIENTS

Common Name: Estradiol Hemihydrate

Formula: $C_{18}H_{24}O_2 \cdot 0.5H_2O$

Chemical Name: 1,3,5-Estratriene-3,17 β -diol

CAS Number: 35380-71-3

Chemical Family: Steroid

Therapeutic Category: Estrogen

Composition: Pure material

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.

If Inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

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In Case of Skin Contact: Wash off with soap and plenty of water. Consult a physician.

In Case of Eye Contact: Rinse thoroughly with plenty of water. Consult a physician.

If Swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5-FIREFIGHTING 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.

SECTION 6-ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protective equipment. Avoid dust formation. Avoid breathing dust. 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 Cleaning up:

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

SECTION 7- HANDLING AND STORAGE

Precautions for Safe Handling:

Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Conditions for Safe Storage:

Keep container tightly closed in a dry and well-ventilated place.

SECTION 8-EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N100 (US) or type P3 (EN143) 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.

Hand Protection: Handle with gloves.

Eye Protection: Safety glasses with side-shields.

Skin and Body Protection: Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene Measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

SECTION 9-PHYSICAL AND CHEMICAL PROPERTIES:

Appearance and odor: White or creamy white crystals or crystalline powder; odourless.

pH: Not found.

Melting Range: Not found.

Boiling Point: Not found.

Flash Point: Not found.

Ignition Temperature: Not found.

Evaporation Rate: Not found.

Lower Explosion Limit: Not found.

Upper Explosion Limit: Not found.

Solubility in Water: Not found.

Formula: $C_{18}H_{24}O_2 \cdot 0.5H_2O$

Molecular Weight: 281.39

SECTION 10-STABILITY AND REACTIVITY

Chemical Stability: Stable under recommended storage conditions.

Conditions to Avoid: No data available.

Materials to Avoid: No data available.

Hazardous Decomposition Products: No data available.

SECTION 11-TOXICOLOGICAL PROPERTIES

Acute Toxicity: No data available.

Skin Corrosion/Irritation: No data available.

Serious Eye Damage/Eye Irritation: No data available.

Respiratory or Skin Sensitization: No data available.

Germ Cell Mutagenicity: No data available.

Carcinogenicity:

The National Toxicology Program (Tenth Report on Carcinogens) has determined that steroidal estrogens are known to be human carcinogens based on sufficient evidence of carcinogenicity in humans, which indicates a causal relationship between exposure to steroidal estrogens and human cancer. This is or contains a component that has been reported to be carcinogenic based on its IARC, OSHA, ACGIH, NTP , or EPA classification

Possible human carcinogen

IARC (International Agency for Research on Cancer):

No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC

Reproductive Toxicity:

May cause congenital malformation in the fetus.

May cause reproductive disorders.

Specific Target Organ Toxicity-Single Exposure (GHS)

No data available

Specific Target Organ Toxicity-Repeated Exposure (GHS)

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.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12-ECOLOGICAL INFORMATION

Ecological Information: No data available

SECTION 13-DISPOSAL CONSIDERATIONS:

Product

Observe all federal, state, and local environmental regulations. 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.

SECTION 14-TRANSPORT INFORMATION

DOT (Department of Transportation): Not dangerous goods.

IMDG (International Maritime Dangerous Goods): Not dangerous goods.

IATA (International Air Transport Association): Not dangerous goods.

SECTION 15-OTHER INFORMATION:

Further information: None.

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