

SIGMA-ALDRICH

Material Safety Data Sheet

Version 3.0
 Revision Date 08/21/2009
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Estradiol
 Product Number : E1024
 Brand : Sigma
 Company : Sigma-Aldrich
 3050 Spruce Street
 SAINT LOUIS MO 63103
 USA
 Telephone : +1 800-325-5832
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 3,17β-Dihydroxy-1,3,5(10)-estratriene
 β-Estradiol
 1,3,5-Estratriene-3,17β-diol
 Dihydrofoliculin
 17β-Estradiol

Formula : C₁₈H₂₄O₂
 Molecular Weight : 272.38 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Estradiol 50-28-2	200-023-8	-	-

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards : Target Organ Effect, Carcinogen, Reproductive hazard
 Target Organs : Female reproductive system, Male reproductive system.

HMIS Classification

Health Hazard: 0
 Chronic Health Hazard: 0
 Flammability: 0
 Physical hazards: 0

NFPA Rating :
 Health Hazard: 0

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Fire: 0

Reactivity Hazard: 0

Potential Health Effects

Inhalation
 May be harmful if inhaled. May cause respiratory tract irritation.
Skin
 May be harmful if absorbed through skin. May cause skin irritation.
Eyes
 May cause eye irritation.
Ingestion
 May be harmful if swallowed.

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.

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 for at least 15 minutes and consult a physician.

If swallowed

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

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point : no data available

Ignition temperature : no data available

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.

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 for cleaning up

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

7. HANDLING AND STORAGE

Handling

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

Storage

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

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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 full-face particle respirator type N99 (US) or type P2 (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).

Hand protection

Handle with gloves.

Eye protection

Safety glasses with side-shields conforming to EN166

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form powder

Colour white

Safety data

pH no data available

Melting point 176 - 180 °C (349 - 356 °F) - lit.

Boiling point no data available

Flash point no data available

Ignition temperature no data available

Lower explosion limit no data available

Upper explosion limit no data available

Water solubility no data available

10. STABILITY AND REACTIVITY

Storage stability

Stable under recommended storage conditions.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

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Acute toxicity

no data available

Irritation and corrosion

no data available

Sensitisation

no data available

Chronic exposure

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.

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.

Genotoxicity in vitro - rat - Other cell types
DNA damage

Genotoxicity in vivo - rat - Oral
Morphological transformation.

May cause reproductive disorders.

Signs and Symptoms of Exposure

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

Potential Health Effects

Inhalation

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

Skin

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

Eyes

May cause eye irritation.

Ingestion

May be harmful if swallowed.

Target Organs

Female reproductive system., Male reproductive system.,

Additional Information

RTECS: KG2975000

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

Toxicity to fish LC50 - Oryzias latipes - 0.002 µg/l - 96 h

Further information on ecology

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no data available

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.

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 (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Chronic Health Hazard

Massachusetts Right To Know Components

Estradiol

CAS-No.
50-28-2

Revision Date
1993-04-24

Pennsylvania Right To Know Components

Estradiol

CAS-No.
50-28-2

Revision Date
1993-04-24

New Jersey Right To Know Components

Estradiol

CAS-No.
50-28-2

Revision Date
1993-04-24

California Prop. 65 Components

WARNING! This product contains a chemical known in the State of California to cause cancer.
Estradiol

CAS-No.
50-28-2

Revision Date
2007-09-28

16. OTHER INFORMATION

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Further information

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