

## MATERIAL SAFETY DATA SHEET

Date Printed: 08/24/2006

Date Updated: 01/30/2006

Version 1.3

## Section 1 - Product and Company Information

Product Name	ALPHA-ESTRADIOL, 98%
Product Number	285773
Brand	ALDRICH
Company	Sigma-Aldrich
Address	3050 Spruce Street SAINT LOUIS MO 63103 US
Technical Phone:	800-325-5832
Fax:	800-325-5052
Emergency Phone:	314-776-6555

## Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
17A-ESTRADIOL	57-91-0	No
Formula	C18H24O2	
Synonyms	3,17-Dihydroxyestratriene * 3,17-alpha-Dihydroxyoestra-1,3,5(10)-triene * 17-Epiestradiol * Epiestrol * alpha-Estradiol * Estra-1,3,5(10)-triene-3,17-diol, (17-alpha)- (9CI) * 1,3,5-Estratriene-3,17-alpha-diol * Oestradiol-17-alpha * Oestra-1,3,5(10)-triene-3,17-alpha-diol	
RTECS Number:	KG3750000	

## Section 3 - Hazards Identification

## EMERGENCY OVERVIEW

Harmful.

Harmful by inhalation, in contact with skin and if swallowed.

Limited evidence of a carcinogenic effect.

Possible carcinogen. Possible mutagen. Possible teratogen.

For additional information on toxicity, please refer to Section 11.

## Section 4 - First Aid Measures

## ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

## INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

## Section 5 - Fire Fighting Measures

## AUTOIGNITION TEMP

N/A

FLAMMABILITY  
N/A

EXTINGUISHING MEDIA  
Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING  
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

---

## Section 6 - Accidental Release Measures

---

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL  
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)  
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Wear disposable coveralls and discard them after use.

METHODS FOR CLEANING UP  
Sweep up, place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

---

## Section 7 - Handling and Storage

---

HANDLING  
User Exposure: Do not breathe dust. Avoid all contact. Avoid prolonged or repeated exposure.

STORAGE  
Suitable: Keep tightly closed. Store in a cool dry place.

---

## Section 8 - Exposure Controls / PPE

---

ENGINEERING CONTROLS  
Safety shower and eye bath. Use only in a chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT  
Other: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

GENERAL HYGIENE MEASURES  
Discard contaminated clothing and shoes. Wash thoroughly after handling.

---

## Section 9 - Physical/Chemical Properties

---

Molecular Weight	272.39 AMU
pH	N/A
BP/BP Range	N/A
MP/MP Range	216.0 - 219.0 °C
Freezing Point	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
SG/Density	N/A
Bulk Density	N/A
Odor Threshold	N/A

Volatile%	N/A
VOC Content	N/A
Water Content	N/A
Solvent Content	N/A
Evaporation Rate	N/A
Viscosity	N/A
Surface Tension	N/A
Partition Coefficient	N/A
Decomposition Temp.	N/A
Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	N/A
Refractive Index	N/A
Optical Rotation	N/A
Miscellaneous Data	N/A
Solubility	N/A

N/A = not available

---

## Section 10 - Stability and Reactivity

---

### STABILITY

Materials to Avoid: Strong oxidizing agents.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

---

## Section 11 - Toxicological Information

---

### ROUTE OF EXPOSURE

Multiple Routes: Harmful if swallowed, inhaled, or absorbed through skin. May cause irritation.

### SIGNS AND SYMPTOMS OF EXPOSURE

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

### CHRONIC EXPOSURE - CARCINOGEN

Species: Guinea pig Guinea pig  
Route of Application: Intramuscular Intramuscular  
Dose: 3 MG/KG 3 MG/KG  
Result: Tumorigenic Effects: Uterine tumors  
Tumorigenic:Equivocal tumorigenic agent by RTECS criteria.  
Tumorigenic:Equivocal tumorigenic agent by RTECS criteria.  
Tumorigenic Effects: Uterine tumors

### CHRONIC EXPOSURE - MUTAGEN

Species: Human Human  
Dose: 100 MG/L 100 MG/L  
Cell Type: Other cell types Other cell types  
Mutation test: DNA inhibition DNA inhibition

### CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Result: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

---

## Section 12 - Ecological Information

---



---

## Section 13 - Disposal Considerations

---

---

#### APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

---

#### Section 14 - Transport Information

---

##### DOT

Proper Shipping Name: Toxic solids, organic, n.o.s.  
UN#: 2811  
Class: 6.1  
Packing Group: Packing Group II  
Hazard Label: Toxic substances.  
PIH: Not PIH

##### IATA

Proper Shipping Name: Toxic solid, organic, n.o.s.  
IATA UN Number: 2811  
Hazard Class: 6.1  
Packing Group: II

---

#### Section 15 - Regulatory Information

---

##### EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xn  
Indication of Danger: Harmful.  
R: 40-48  
Risk Statements: Limited evidence of a carcinogenic effect.  
Danger of serious damage to health by prolonged exposure.  
S: 22-24/25  
Safety Statements: Do not breathe dust. Avoid contact with skin and eyes.

##### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Harmful.  
Risk Statements: Harmful by inhalation, in contact with skin and if swallowed. Limited evidence of a carcinogenic effect.  
Safety Statements: Wear suitable protective clothing. Do not breathe dust.  
US Statements: Possible carcinogen. Possible mutagen. Possible teratogen.

##### UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

##### CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.  
DSL: No  
NDSL: No

---

#### Section 16 - Other Information

---

##### DISCLAIMER

For R&D use only. Not for drug, household or other uses.

##### WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The

information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2006 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.