

Section 1 - Product and Company Information

Product Name 2-HYDROXYESTRADIOL
 Product Number H3131
 Brand SIGMA
 Company Sigma-Aldrich Canada, Ltd
 Address 2149 Winston Park Drive
 Oakville ON L6H 6J8 CA
 Technical Phone: 9058299500
 Fax: 9058299292
 Emergency Phone: 800-424-9300

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
2-HYDROXYESTRADIOL	362-05-0	No
Formula	C18H24O3	
Synonyms	2-Hydroxyestradiol * 2-OH-Estradiol	
RTCS Number:	KG7675000	

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Harmful.
 Limited evidence of a carcinogenic effect.
 Possible teratogen. Possible carcinogen.

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 breathing becomes difficult, call a physician.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

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.
 Specific Hazard(s): Emits toxic fumes under fire conditions.

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.

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

STORAGE

Suitable: Keep tightly closed. Store in a cool dry place.
 Store at -20°C

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Use only in a chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.
 Hand: Compatible chemical-resistant gloves.
 Eye: Chemical safety goggles.

Section 9 - Physical/Chemical Properties

Molecular Weight	288.39 AMU
pH	N/A
BP/BP Range	N/A
MP/MP Range	190.0 - 191.0 °C
Freezing Point	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A

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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
Flash Point	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

Stable: Stable.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Multiple Routes: May be harmful by inhalation, ingestion, or skin absorption.

CONDITIONS AGGRAVATED BY EXPOSURE

The toxicological properties have not been thoroughly investigated.

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

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

Species: Rat
 Dose: 1280 NG/KG
 Route of Application: Intraperitoneal
 Exposure Time: (8D MALE)
 Result: Paternal Effects: Other effects on male.
 Endocrine: Androgenic.

Species: Rat
 Dose: 10 UG/KG
 Route of Application: Intravenous
 Exposure Time: (1D PRE)
 Result: Maternal Effects: Uterus, cervix, vagina.

Section 12 - Ecological Information

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No data available.

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: None
 Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Indication of Danger: Xn
 Indication of Danger: Harmful.
 R: 40
 Risk Statements: Limited evidence of a carcinogenic effect.
 S: 22-36
 Safety Statements: Do not breathe dust. Wear suitable protective clothing.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Harmful.
 Risk Statements: Limited evidence of a carcinogenic effect.
 Safety Statements: Do not breathe dust. Wear suitable protective clothing.
 US Statements: Possible teratogen. Possible carcinogen.

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.,

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