



SECTION 1: PRODUCT IDENTIFICATION

Product Name: 9,11-Dehydro Estrone
Catalog No.: ESS0018
Product Use: For laboratory research purposes

SECTION 2: HAZARDS IDENTIFICATION

WHMIS Classification: CLASS D2A: Material causing other toxic effects. Very toxic. Teratogen, carcinogen, reproductive hazard.

GHS Classification:
Acute toxicity, Oral (Category 4)
Carcinogenicity (Category 1B)
Reproductive toxicity (Category 2)
Hazardous to the Aquatic Environment, Acute Hazard (Category 1)
Hazardous to the Aquatic Environment, Long-term Hazard (Category 1)

GHS Label elements

Pictogram:



Signal word: Danger

Hazard statement:
H302: Harmful if swallowed.
H350: May cause cancer.

Precautionary statement:
H410: Very toxic to aquatic life with long lasting effects.
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P260: Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P273: Avoid release to the environment.
P264: Wash (hands) thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/ face protection.
P308+313: If exposed or concerned: Get medical attention/ advice.

Response statements:

HMIS Classification

Health Hazard: 0
Chronic Health Hazard: Teratogen
Flammability: 0
Physical Hazards: 0

Potential Health Effects

Inhalation: May be harmful in case of inhalation. May cause respiratory tract irritation.
Skin: Harmful if absorbed through skin. May cause skin irritation.
Eyes: May cause eye irritation.
Ingestion: Harmful if swallowed.
Other hazards: No data available.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Synonyms: Δ -9(11)-Estrone, 3-Hydroxy-1,3,5(10),9(11)-tetraen-17-one
Formula: $C_{18}H_{20}O_2$
Molecular Weight: 268.36
CAS No.: 1089-80-1

SECTION 4: FIRST AID MEASURES

General Advice: Consult a physician. Show this SDS. Move out of dangerous area.
If Inhaled: Allow the victim to rest in a well-ventilated area. Seek immediate medical attention.
In case of skin contact: After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.
In case of eye contact: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.
If swallowed: Do not induce vomiting. Rinse mouth with water. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.



Expert Synthesis Solutions
700 Collip Circle
London, ON N6G4X8
647-407-9078 | info@esschemco.com
www.esschemco.com

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SECTION 5: FIRE FIGHTING MEASURES

Suitable extinguishing media:	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Special protective equipment for firefighters:	Wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. During a fire, toxic gases may be generated by thermal decomposition or combustion.
Hazardous combustion products:	Hazardous decomposition products formed under fire conditions: carbon oxides (CO, CO ₂).
Explosion data:	No data available.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions:	Use proper personal protective equipment as indicated in section 8.
Environmental precautions:	Clean up spills immediately, observing precautions in the Protective Equipment section. Do not let product enter drains.
Methods and materials for containment and cleaning up:	Sweep up, and then place into a suitable container for disposal.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:	Keep away from heat. Keep away from sources of ignition. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation where dust is formed. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.
Conditions for safe storage:	Keep container tightly closed in a dry and well ventilated place. Ground all equipment containing material. Recommended long term storage temperature 2-8°C.

SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering Controls:	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.
<u>Personal protective equipment</u>	
Respiratory protection:	Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.
Hand protection:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Eye protection:	Wear safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166 (EU).
Skin and body protection:	Wear appropriate gloves and clothing to prevent skin exposure.
Hygiene measures:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before break and after the end of work day.

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

Appearance:	Pale yellow solid
Odour:	No data available.
Odour threshold:	No data available.
pH:	No data available.
Melting point/Freezing point:	No data available.
Initial boiling point/boiling range:	No data available.
Flash point:	No data available.
Evaporation rate:	No data available.
Flammability (solid; gas):	No data available.
Lower flammable/explosive limit:	No data available.
Upper flammable/explosive limit:	No data available.
Vapour pressure:	No data available.
Vapour density:	No data available.
Solubility:	DMSO, Ethyl Acetate, Methanol
Partition coefficient – n-octanol/water:	No data available.
Autoignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

SECTION 10: STABILITY & REACTIVITY

Chemical stability:	Stable under recommended storage conditions.
Conditions to avoid:	Not available.
Possibility of hazardous reactions:	No data available.
Incompatibilities:	Strong oxidizing agents.
Hazardous decomposition products:	Hazardous decomposition products formed under fire conditions: carbon oxides (CO, CO ₂).



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SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity:	No data available.
Carcinogenicity:	Possible human carcinogen.
Reproductive toxicity:	Suspected causing reproductive disorder.
Teratogenicity:	Suspected of teratogenic effects.
Potential health effects:	
Inhalation:	May be harmful in case of inhalation. May cause respiratory tract irritation
Skin:	Harmful if absorbed through skin. May cause skin irritation.
Eyes:	May cause eye irritation.
Ingestion:	Harmful if swallowed.
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

Ecotoxicity:	No data available.
Persistence and degradability:	No data available.
Bioaccumulative potential:	No data available.
Mobility in soil:	No data available.
Other adverse effects:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effect.

SECTION 13: DISPOSAL CONSIDERATION

Product:	Dispose in a manner consistent with federal, state, and local regulations.
Contaminated packaging:	Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

TDG (Canada):	UN3077
DOT (US):	UN3007
IMDG:	UN3007
IATA:	UN3007
UN number:	UN3077
UN proper shipping name:	9,11-Dehydro Estrone, Environmentally hazardous substance, organic compound, solid.
Transport hazard class:	9
Packing group:	III
Special precautions:	Ship at room temperature.

SECTION 15: REGULATORY INFORMATION

General:	WHMIS CLASS D2A: Material causing other toxic effects. Very toxic. Teratogen, carcinogen, reproductive hazard.
DSL/NDL (Canada):	This product is not listed on the Canadian DSL/NDL.
TSCA (US):	This product is not listed on the US EPA TSCA.
ECHA (EU):	This product is not listed on the EU ECHA.

SECTION 16: OTHER INFORMATION

Further Information

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 regards to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Expert Synthesis Solutions shall not be held liable for any damage resulting from handling or from contact with the above product.