# Conjugated Estrogen

## sc-357319

**Material Safety Data Sheet**

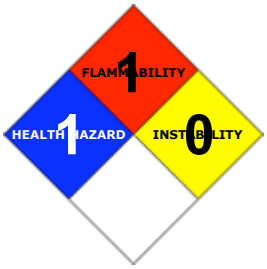
| Hazard Alert Code Key: | EXTREME | HIGH | MODERATE | LOW |
|---|---|---|---|---|

## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT NAME
Conjugated Estrogen

### STATEMENT OF HAZARDOUS NATURE
**CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.**

### NFPA




### SUPPLIER
Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, California 95060
800.457.3801 or 831.457.3800
**EMERGENCY:**
ChemWatch
Within the US & Canada: 877-715-9305
Outside the US & Canada: +800 2436 2255
(1-800-CHEMCALL) or call +613 9573 3112

### SYNONYMS
Amnestrogen, Climesterone, CO-Estro, Conest, Conesteron, Conjes, Conjutabs, Equigyne, Esrratab, Estrifol, Estroate, Estrocon, Estromed, Estropan, Femacoid, Femest, "FEM H", Formamtrix, Ganeake, Genisis, Glyestrin, Kestrin, Menest, Menogen, Menotab, Menotrol, Msmed, Novoconestron, Oestrilin, Oestro-feminal, "Oestropak morning", Ovest, Palopause, "Par estro", PMB, Premarin, Presomen, Promarit, SK-Estrogens, Sodestrin-H, TAG-39, Theogen, Transannon, Trocosone, Zeste, "conjugated estrogen", "oestrogen/ estrogen steroid"

## Section 2 - HAZARDS IDENTIFICATION

### CHEMWATCH HAZARD RATINGS

| | | Min | Max |
|---|---|---|---|
| Flammability: | 1 | | |
| Toxicity: | 2 | | |
| Body Contact: | 2 | | |
| Reactivity: | 1 | | |
| Chronic: | 4 | | |

Min/Nil=0
Low=1
Moderate=2
High=3
Extreme=4

### CANADIAN WHMIS SYMBOLS

## EMERGENCY OVERVIEW

### RISK

Harmful if swallowed.
May cause CANCER.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### POTENTIAL HEALTH EFFECTS

### ACUTE HEALTH EFFECTS

### SWALLOWED

■ Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.
■ The estrogens may produce dose-related nausea and vomiting, undesirable uterine growth, proliferation and withdrawal bleeding or loss of periods. It causes enlargement of the breasts in males.

### EYE

■ Although the material is not thought to be an irritant, direct contact with the eye may cause transient discomfort characterized by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.

### SKIN

■ The material is not thought to be a skin irritant (as classified using animal models). Abrasive damage however, may result from prolonged exposures.
■ Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.
■ Open cuts, abraded or irritated skin should not be exposed to this material.
■ Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

### INHALED

■ The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified using animal models). Nevertheless, adverse effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
■ Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

### CHRONIC HEALTH EFFECTS

■ There is sufficient evidence to suggest that this materialdirectly causes cancer in humans.
There is some evidence that human exposure to the material may result in developmental toxicity. This evidence is based on animal studies where effects have been observed in the absence of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not secondary non-specific consequences of the other toxic effects.
Exposure to the material may cause concerns for human fertility, on the basis that similar materials provide some evidence of impaired fertility in the absence of toxic effects, or evidence of impaired fertility occurring at around the same dose levels as other toxic effects, but which are not a secondary non-specific consequence of other toxic effects.
.
Long term administration of estrogens can greatly increase the risk of endometrial cancer, especially after menopause. Males exposed can develop enlarged breasts and other feminizing effects, nipple pigmentation, withering of testicles, sterility, impotence and altered distribution of hair.
Studies in humans show a strong association between use of the conjugated oestrogens and an increased incidence of endometrial carcinoma. In two studies, the use of intra-vaginal oestrogen was reported to induce increases of the incidence of endometrial cancer. Cases of liver tumours, including a hepatic adenoma in one woman and a haemangioendothelial sarcoma in one man, have been associated with the use of non-contraceptive oestrogens. In another study, the use of hormones during pregnancy, increased the risk of the development of testicular cancer (tumours included embryonal cell carcinomas, seminomas, teratomas, choriocarcinomas and interstitial cell carcinomas). There is conflicting evidence linking conjugated oestrogens and breast cancer. Rats fed conjugated oestrogens showed an increased incidence of mammary tumours (mainly fibroadenomas) and pituitary tumours in males, and thyroid carcinomas and pituitary tumours in females.
Exposure to the material for prolonged periods may cause physical defects in the developing embryo (teratogenesis).

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| NAME | CAS RN | % |
|---|---|---|
| conjugated oestrogens | 12126-59-9 | >98 |
| being a mixture of naturally occurring hormones as | | |
| estrone sulfate sodium salt | 438-67-5 | |
| equilin sulfate, sodium salt | 16680-47-0 | |
| and the synthetic | | |

| | |
|---|---|
| estrone sulfate piperazine salt | 7280-37-7 |

## Section 4 - FIRST AID MEASURES

### SWALLOWED
· IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY. · Where Medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:

### EYE
■ If this product comes in contact with the eyes: · Wash out immediately with fresh running water. · Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

### SKIN
■ If skin contact occurs: · Immediately remove all contaminated clothing, including footwear · Flush skin and hair with running water (and soap if available).

### INHALED
· If dust is inhaled, remove from contaminated area. · Encourage patient to blow nose to ensure clear passage of breathing. · If irritation or discomfort persists seek medical attention.

### NOTES TO PHYSICIAN
■ for poisons (where specific treatment regime is absent):
----------BASIC TREATMENT
----------
· Establish a patent airway with suction where necessary.
· Watch for signs of respiratory insufficiency and assist ventilation as necessary.
Treat symptomatically.

## Section 5 - FIRE FIGHTING MEASURES

| | |
|---|---|
| Vapour Pressure (mmHG): | Negligible |
| Upper Explosive Limit (%): | Not available |
| Specific Gravity (water=1): | Not available |
| Lower Explosive Limit (%): | Not available |

### EXTINGUISHING MEDIA
· Water spray or fog.
· Foam.

### FIRE FIGHTING
· Alert Emergency Responders and tell them location and nature of hazard.
· Wear breathing apparatus plus protective gloves.
When any large container (including road and rail tankers) is involved in a fire,
consider evacuation by 100 metres in all directions.

### GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS
· Combustible solid which burns but propagates flame with difficulty.
· Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust may burn rapidly and fiercely if ignited.
Combustion products include: carbon monoxide (CO), carbon dioxide ($CO_2$), nitrogen oxides (NOx), sulfur oxides (SOx), metal oxides, other pyrolysis products typical of burning organic material.

### FIRE INCOMPATIBILITY
■ Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids,chlorine bleaches, pool chlorine etc. as ignition may result.

### PERSONAL PROTECTION
Glasses:
Chemical goggles.
Gloves:
Respirator:
Particulate

## Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS
· Clean up waste regularly and abnormal spills immediately.
· Avoid breathing dust and contact with skin and eyes.
· Wear protective clothing, gloves, safety glasses and dust respirator.
· Use dry clean up procedures and avoid generating dust.
· Vacuum up or sweep up. NOTE: Vacuum cleaner must be fitted with an exhaust micro filter (HEPA type) (consider explosion-proof machines designed to be grounded during storage and use).
· Dampen with water to prevent dusting before sweeping.

· Place in suitable containers for disposal.
Environmental hazard - contain spillage.
MAJOR SPILLS
· Clear area of personnel and move upwind.
· Alert Emergency Responders and tell them location and nature of hazard.
Environmental hazard - contain spillage.

## Section 7 - HANDLING AND STORAGE

### PROCEDURE FOR HANDLING

· Avoid all personal contact, including inhalation.
· Wear protective clothing when risk of exposure occurs.
Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.
· Do NOT cut, drill, grind or weld such containers.
· In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.

### RECOMMENDED STORAGE METHODS

■ Glass container.
· Polyethylene or polypropylene container.
· Check all containers are clearly labelled and free from leaks.

### STORAGE REQUIREMENTS

■ Observe manufacturer's storing and handling recommendations.
NOTE: Store in the dark.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

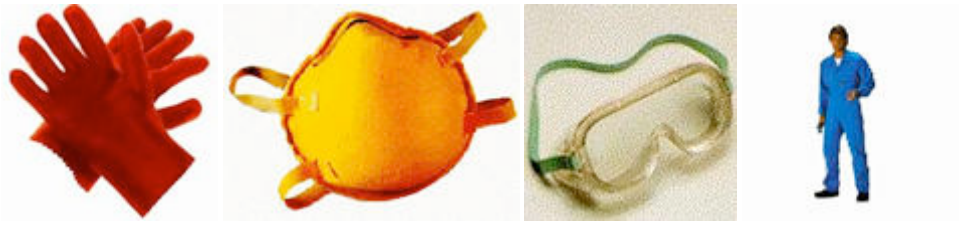
| Source | Material | TWA ppm | TWA mg/m³ | STEL ppm | STEL mg/m³ | Peak ppm | Peak mg/m³ | TWA F/CC | Notes |
|---|---|---|---|---|---|---|---|---|---|
| US - Oregon Permissible Exposure Limits (Z-3) | conjugated oestrogens (Inert or Nuisance Dust: Total dust) | | 10 | | | | | | (d) |
| US OSHA Permissible Exposure Levels (PELs) - Table Z3 | conjugated oestrogens (Inert or Nuisance Dust: (d) Respirable fraction) | | 5 | | | | | | |
| US OSHA Permissible Exposure Levels (PELs) - Table Z3 | conjugated oestrogens (Inert or Nuisance Dust: (d) Total dust) | | 15 | | | | | | |
| US - Hawaii Air Contaminant Limits | conjugated oestrogens (Particulates not other wise regulated - Total dust) | | 10 | | | | | | |
| US - Hawaii Air Contaminant Limits | conjugated oestrogens (Particulates not other wise regulated - Respirable fraction) | | 5 | | | | | | |
| US - Oregon Permissible Exposure Limits (Z-3) | conjugated oestrogens (Inert or Nuisance Dust: Respirable fraction) | | 5 | | | | | | (d) |

| | | | | | |
|---|---|---|---|---|---|
| US - California Permissible Exposure Limits for Chemical Contaminants | conjugated oestrogens (Particulates not otherwise regulated Respirable fraction) | 5 | | | (n) |
| US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants | conjugated oestrogens (Particulates not otherwise regulated Respirable fraction) | 5 | | | |
| US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants | conjugated oestrogens (Particulates not otherwise regulated (PNOR)(f)-Respirable fraction) | 5 | | | |
| US - Michigan Exposure Limits for Air Contaminants | conjugated oestrogens (Particulates not otherwise regulated, Respirable dust) | 5 | | | |
| Canada - Prince Edward Island Occupational Exposure Limits | conjugated oestrogens (Particles (Insoluble or Poorly Soluble) [NOS] Inhalable particles) | 10 | | | See Appendix B current TLV/BEI Book |
| Canada - British Columbia Occupational Exposure Limits | estrone sulfate piperazine salt (Piperazine and its Salts, as Piperazine) | 0.3 | 1 | | S |

ENDOELTABLE
The following materials had no OELs on our records

- estrone sulfate sodium salt: CAS:438-67-5
- equilin sulfate, sodium salt: CAS:16680-47-0

## PERSONAL PROTECTION



## RESPIRATOR

Particulate
Consult your EHS staff for recommendations

## EYE

■ When handling very small quantities of the material eye protection may not be required.
For laboratory, larger scale or bulk handling or where regular exposure in an occupational setting occurs:
· Chemical goggles
· Face shield. Full face shield may be required for supplementary but never for primary protection of eyes
· Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

## HANDS/FEET

■ Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:
· frequency and duration of contact,
· chemical resistance of glove material,
· glove thickness and
· dexterity
Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739).
· When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended.
· When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended.
· Contaminated gloves should be replaced.
Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.
· Rubber gloves (nitrile or low-protein, powder-free latex). Employees allergic to latex gloves should use nitrile gloves in preference.
· Double gloving should be considered.
· PVC gloves.
· Protective shoe covers.
· Head covering.
Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.
· polychloroprene
· nitrile rubber
· butyl rubber
· fluorocaoutchouc
· polyvinyl chloride
Gloves should be examined for wear and/ or degradation constantly.

### OTHER

· Employees working with confirmed human carcinogens should be provided with, and be required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.
· Employees engaged in handling operations involving carcinogens should be provided with, and required to wear and use half-face filter-type respirators with filters for dusts, mists and fumes, or air purifying canisters or cartridges. A respirator affording higher levels of protection may be substituted.
· Emergency deluge showers and eyewash fountains, supplied with potable water, should be located near, within sight of, and on the same level with locations where direct exposure is likely.
· Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers must be identified with suitable labels. For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood.
· Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood.
· For quantities up to 500 grams a laboratory coat may be suitable.
· For quantities up to 1 kilogram a disposable laboratory coat or coverall of low permeability is recommended. Coveralls should be buttoned at collar and cuffs.
· For quantities over 1 kilogram and manufacturing operations, wear disposable coverall of low permeability and disposable shoe covers.
· For manufacturing operations, air-supplied full body suits may be required for the provision of advanced respiratory protection.
· Eye wash unit.
· Ensure there is ready access to an emergency shower.
· For Emergencies: Vinyl suit.

### ENGINEERING CONTROLS

· Employees exposed to confirmed human carcinogens should be authorized to do so by the employer, and work in a regulated area.
· Work should be undertaken in an isolated system such as a "glove-box" . Employees should wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.
· Within regulated areas, the carcinogen should be stored in sealed containers, or enclosed in a closed system, including piping systems, with any sample ports or openings closed while the carcinogens are contained within.
· Open-vessel systems are prohibited.
· Each operation should be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation.
· Exhaust air should not be discharged to regulated areas, non-regulated areas or the external environment unless decontaminated. Clean make-up air should be introduced in sufficient volume to maintain correct operation of the local exhaust system.
· For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood.
· Except for outdoor systems, regulated areas should be maintained under negative pressure (with respect to non-regulated areas).
· Local exhaust ventilation requires make-up air be supplied in equal volumes to replaced air.
· Laboratory hoods must be designed and maintained so as to draw air inward at an average linear face velocity of 150 feet/ min. with a minimum of 125 feet/ min. Design and construction of the fume hood requires that insertion of any portion of the employees body, other than hands and arms, be disallowed.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

### PHYSICAL PROPERTIES

Solid.
Mixes with water.

| | | | |
|---|---|---|---|
| State | Divided solid | Molecular Weight | Not applicable |
| Melting Range (°F) | Not available | Viscosity | Not Applicable |
| Boiling Range (°F) | Not available | Solubility in water (g/L) | Miscible |
| Flash Point (°F) | Not available | pH (1% solution) | Not available |
| Decomposition Temp (°F) | Not available | pH (as supplied) | Not applicable |
| Autoignition Temp (°F) | Not available | Vapour Pressure (mmHG) | Negligible |
| Upper Explosive Limit (%) | Not available | Specific Gravity (water=1) | Not available |
| Lower Explosive Limit (%) | Not available | Relative Vapor Density (air=1) | Not Applicable |
| Volatile Component (%vol) | Negligible | Evaporation Rate | Not Applicable |

### APPEARANCE

White to off-white crystalline powder; mixes with water. Conjugated oestrogens are an amorphous mixture containing naturally occurring forms of mixed oestrogens and synthetic forms. The naturally occurring sodium equilin sulfate component is unstable in the presence of heat and light. Piperazine oestrone sulfate occurs as a white-to yellowish crystalline that is slightly soluble in water, ethanol, chloroform, acetone, methylene chloride, mineral oil and sesame oil; soluble in sodium hydroxide and propylene hydroxide.

Unconjugated steroidal estrogens have low solubility in water (0.8-13.3 mg L-1) and are moderately hydrophobic (log Kow 2.6-4.0). Therefore is the potential for bioaccumulation exists. Estrogenic compounds are generally bioaccumulative and may biomagnify through the food chain resulting in adverse physiological affects. Accumulation into milk may be particularly worrying as it is fed to infants and children and their immune systems are not fully developed, therefore the physiological effects may be more serious.

| Material | Value |
|---|---|

## Section 10 - CHEMICAL STABILITY

### CONDITIONS CONTRIBUTING TO INSTABILITY

· Presence of incompatible materials.
· Product is considered stable.

### STORAGE INCOMPATIBILITY

■ Avoid reaction with oxidizing agents.
Heat and light accelerate decomposition.

For incompatible materials - refer to Section 7 - Handling and Storage.

## Section 11 - TOXICOLOGICAL INFORMATION

CONJUGATED OESTROGENS

### TOXICITY AND IRRITATION

■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.
■ Tenth Annual Report on Carcinogens: Substance known to be Carcinogenic
[National Toxicology Program: U.S. Dep. of Health and Human Services 2002].
■ Exposure to the material for prolonged periods may cause physical defects in the developing embryo (teratogenesis).
■ No significant acute toxicological data identified in literature search.
CONJUGATED OESTROGENS:

| TOXICITY | IRRITATION |
|---|---|
| Intraperitoneal (rat) LD50: 325 mg/kg | Nil Reported |
| Intravenous (rat) LD50: 1740 mg/kg | Nil Reported |

Oral (rat) LD50: 325 mg/kg

■ WARNING: This substance has been classified by the IARC as Group 1: CARCINOGENIC TO HUMANS.
Effects on fertility recorded.

**as Premarin:**

**ESTRONE SULFATE SODIUM SALT:**

Maternal effects recorded.

### CARCINOGEN

| | | | |
|---|---|---|---|
| SODIUM ESTRONE SULFATE | US Environmental Defense Scorecard Suspected Carcinogens | Reference(s) | NTP-C |
| ESTROGENS, STEROIDAL | US Environmental Defense Scorecard Suspected Carcinogens | Reference(s) | IARC, NTP-C |
| SODIUM EQUILIN SULFATE | US Environmental Defense Scorecard Suspected Carcinogens | Reference(s) | NTP-C |

| | | | |
|---|---|---|---|
| ESTROPIPATE | US Environmental Defense Scorecard Recognized Carcinogens | Reference(s) | P65 |
| ESTROPIPATE | US Environmental Defense Scorecard Suspected Carcinogens | Reference(s) | P65 |

## Section 12 - ECOLOGICAL INFORMATION

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
This material and its container must be disposed of as hazardous waste.
Avoid release to the environment.
Refer to special instructions/ safety data sheets.

**Ecotoxicity**

| Ingredient | Persistence: Water/Soil | Persistence: Air | Bioaccumulation | Mobility |
|---|---|---|---|---|
| estrone sulfate sodium salt | HIGH | | LOW | LOW |

## Section 13 - DISPOSAL CONSIDERATIONS

**Disposal Instructions**
All waste must be handled in accordance with local, state and federal regulations.
¦ Puncture containers to prevent re-use and bury at an authorized landfill.
Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.
A Hierarchy of Controls seems to be common - the user should investigate:
· Reduction
· Reuse
· Recycling
· Disposal (if all else fails)
This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.
DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.
· Recycle wherever possible.
· Consult manufacturer for recycling options or consult Waste Management Authority for disposal if no suitable treatment or disposal facility can be identified.

## Section 14 - TRANSPORTATION INFORMATION


DOT:
Symbols: G Hazard class or Division: 9
Identification Numbers: UN3077 PG: III
Label Codes: 9 Special provisions: 8, 146,
335, B54,
IB8, IP3,
N20, T1,
TP33
Packaging: Exceptions: 155 Packaging: Non- bulk: 213
Packaging: Exceptions: 155 Quantity limitations: No limit
Passenger aircraft/rail:
Quantity Limitations: Cargo No limit Vessel stowage: Location: A
aircraft only:
Vessel stowage: Other: None
Hazardous materials descriptions and proper shipping names:
Environmentally hazardous substance, solid, n.o.s

**Air Transport IATA:**
ICAO/IATA Class: 9 ICAO/IATA Subrisk: None
UN/ID Number: 3077 Packing Group: III
Special provisions: A97
Cargo Only

Packing Instructions: 911 Maximum Qty/Pack: 400 kg
Passenger and Cargo Passenger and Cargo
Packing Instructions: 911 Maximum Qty/Pack: 400 kg
Passenger and Cargo Limited Quantity Passenger and Cargo Limited Quantity
Packing Instructions: Y911 Maximum Qty/Pack: 30 kg G
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. *(CONTAINS CONJUGATED OESTROGENS)

**Maritime Transport IMDG:**
IMDG Class: 9 IMDG Subrisk: None
UN Number: 3077 Packing Group: III
EMS Number: F-A , S-F Special provisions: 179 274 335 909
Limited Quantities: 5 kg Marine Pollutant: Yes
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

## Section 15 - REGULATORY INFORMATION

**conjugated oestrogens (CAS: 12126-59-9) is found on the following regulatory lists;**
"International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs","US - Connecticut Hazardous Air Pollutants"

**Regulations for ingredients**

**estrone sulfate sodium salt (CAS: 438-67-5) is found on the following regulatory lists;**
"Canada Domestic Substances List (DSL)","US - Pennsylvania - Hazardous Substance List"

**equilin sulfate, sodium salt (CAS: 16680-47-0) is found on the following regulatory lists;**
"US - Pennsylvania - Hazardous Substance List"

**estrone sulfate piperazine salt (CAS: 7280-37-7,29080-16-8) is found on the following regulatory lists;**
"US - California Proposition 65 - Carcinogens","US - California Proposition 65 - Priority List for the Development of MADLs for Chemicals Causing Reproductive Toxicity","US - California Proposition 65 - Priority List for the Development of NSRLs for Carcinogens","US - California Proposition 65 - Reproductive Toxicity","US - Maine Chemicals of High Concern List","US - Pennsylvania - Hazardous Substance List"

## Section 16 - OTHER INFORMATION

**ND**
Substance CAS Suggested codes estrone sulfate sodium salt 438- 67- 5

**Ingredients with multiple CAS Nos**
Ingredient Name CAS estrone sulfate piperazine salt 7280-37-7, 29080-16-8

*Reasonable care has been taken in the preparation of this information, but the author makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The author makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. For additional technical information please call our toxicology department on +800 CHEMCALL.*

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.



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