LKT Laboratories, Inc.

Safety Data Sheet

Section 1. Product and Company Identification

Product Name Estrone

Product ID E7378

Chemical Name (Synonyms) Oestrone; Flliculinn; Tokokin; Hiestrone; Glandubolin; Kolponn; Homrovarine; Wynestron; Kestron; Follestrine

Supplier

LKT Laboratories, Inc
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St. Paul, MN 55130 USA
Ph: 651-644-8424 Fax: 651-644-8357
www.lktlabs.com - getinfo@lktlabs.com

Emergency Phone # 1-800-424-9300

Section 2. Hazards Identification

GHS Classification

Carcinogenicity (Category 2), H351
Reproductive toxicity (Category 1A), H360
Effects on or via lactation, H362

GHS Label elements including precautionary statements

Pictogram

Signal word **Danger**

Hazard and precautionary statements

Hazard statements
H351 - Suspected of causing cancer.
H360 - May damage fertility or the unborn child.
H362 - May cause harm to breast-fed children.
Precautionary statements
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust or mist.
P263 - Avoid contact during pregnancy/ while nursing.
P264 - Wash skin thoroughly after handling.
P270 - do not eat, drink, or smoke when using this product.
P281 - Use personal protective equipment as required.
P308 + P313 - IF exposed or concerned: Get medical advice/ attention.
P405 - Store locked up.
P501 - Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification

Health hazard: 0
Chronic health hazard: 0
Flammability: 0
Physical hazard: 0

NFPA Rating

Health hazard: 0
Fire hazard: 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.

Carcinogenicity: Suspected of causing cancer. Reproductive toxicity: May damage fertility or the unborn child. May cause harm to breast-fed children. Effects on or via lactation.

Section 3. Composition/Information on Ingredients

Substances Ingredient: Title Compound Percent: 100

Formula $C_{18}H_{22}O_2$ **Formula Wt.** 270.37

CAS No. 53-16-7 **EC No.** 200-164-5

Section 4. First Aid Measues

General advice Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Eye Contact Flush eyes with water as a precaution.

Skin Contact Wash off with soap and plenty of water. Consult a physician.

Inhalation If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

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

Section 5 . Firefighting Measures

Flash Point Not available.

Extingushing Media Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

Firefighting Procedures Wear self-contained breathing apparatus for firefighting if necessary.

Unusual Fire Hazards Not available.

Section 6. Accidental Release Measures

Personal Precautions Use personal protective equipment. Avoid dust formation. Avoid breathing dust, vapors, mist, or gas. 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 and materials for containment and cleanup Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section 7. Handling and Storage

Handling Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation, should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed.

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.
Recommended storage temperature: Ambient

Hazardous Decomposition Products Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other Remarks Storage class (TRGS 510): Noncombustible, acute toxic Cat. 3 / toxic hazardous materials or hazardous materials causing chronic effects.

Section 8. Exposure Controls/Personal Protection

Personal protective equipment

EXPOSURE CONTROLS
Contains no substances with occupational exposure limit values.
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
PERSONAL PROTECTION
Eye/face protection: Safety glasses with side-shields conforming to EN 166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).
Skin 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.
Body protection: Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
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).

Section 9. Physical and Chemical Properties

Physical State	Solid.	**Color**	White crystal powder.
Boiling Point	Not available.	**Volatility**	Not available.
Melting Point	254.5-256°C	**Density**	Not available.
Solubility	Insoluble in water. Sparingly soluble in ethanol (4 mg/mL). Soluble in acetone (20 mg/mL at 50° C), chloroform, benzene, dioxane, pyridine or fixed alkali hydroxide solutions.	**pH**	Not available.
Flash Point	Not available.	**Ignition temperature**	Not available.
Lower explosion limit	Not available.	**Autoignition temperature**	> 400˚C
Upper explosion limit	Not available.	**Vapor pressure**	Not available.
Water solubility	Insoluble in water.	**Odor**	Not available.
Partition coefficient: n-octanol/water	low Pow: 2.6 at 25˚ C	**Odor Threshold**	Not available.
Relative vapor density	Not available.	**Evaporation rate**	Not available.

Section 10. Stability and Reactivity

Stability Stable under recommended storage conditions.

Materials To Avoid Strong oxidizing agents.

Hazardous Decomposition Products Hazardous decomposition products formed under fire conditions. - Carbon oxides

Possibility of hazardous reactions Not available.

Conditions to avoid Not available.

Section 11. Toxicological Information

Oral LD50 Not available.

Inhalation LC50 Not available.

Dermal LD50 Not available.

Other information on acute toxicity Not available.

Reproductive Toxicity May cause reproductive disorders.

Specific organ toxicity single exposure (GHS) Not available.

Specific organ toxicity repeated exposure (GHS) Not available.

Teratogenicity Not available.

Skin corrosion/irritation Skin - EPISKIN Human Skin Model Test
Result: No skin irritation - 15 min.
(OECD Test Guideline 429)

Serious eye damage/irritation Eyes - In vitro study.
Result: No eye irritation - 240 min.

Respiratory or skin sensitization In vivo assay - Mouse.
Result: Does not cause skin sensitization.
(OECD Test Guideline 429)

Germ cell mutagenicity Laboratory experiments have shown mutagenic effects.
No data available.

Aspiration Hazard Not available.

Synergistic effects Not available.

Additional Information RTECS: KG8575000

Signs and symptoms of exposure Headache, nausea, vomiting, Diarrhea, alopecia, dizziness.
Stomach - irregularities - based on human evidence.

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.
Carcinogenicity: Suspected of causing cancer. Reproductive toxicity: May damage fertility or the unborn child. May cause harm to breast-fed children. Effects on or via lactation.

Carcinogenicity
There is sufficient evidence for the carcinogenicity of estrone in experimental animals. In the absence of adequate data in humans, it is reasonable for practical purposes, to regard estrone as if it presented a carcinogenic risk to humans. Studies in humans strongly suggest that the administration of estrogens is causally related to an increased incidence of endometrial carcinoma; there is no evidence that estrone is different from other estrogens in this respect. There is sufficient evidence for the carcinogenicity of b-estradiol in experimental animals. In the absence of adequate data in humans, it is reasonable, for practical purposes, to regard b-estradiol as if it presented a carcinogenic risk to humans. Studies in humans strongly suggest that the administration of estrogens is causally related to an increased incidence of endometrial carcinoma; there is no evidence that b-estradiol is different from other estrogens in this respect. The National Toxicology Program (10th Report on Carcinogens) has determined that steroidal estrogens are know 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 product is or contains a component that has been reported to be probably carcinogenic based on it 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: Known to be human carcinogen (Estrone).
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.

Section 12. Ecological Information

Toxicity Toxicity to daphnia and other aquatic invertebrates. - Static test EC50 - Daphnia magna (Water flea) - > 1.5 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae - Static test EC50 - Pseudokirchneriella subcapitata - > 0.57 mg/l - 72h (OECD Test Guideline 201)
Toxicity to bacteria- Respiration inhibition EC50 - see

Mobility in soil Not available.

PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not

user defined free text - > 10 mg/l - 44h

Persistence and degradability Biodegradability - Aerobic - Exposure time 28 d
Result: 37% - Not readily biodegradable.
(OECD Test Guideline 301B)

Bioaccumulative potential Not available.

conducted.

Other adverse effects Not available.

Section 13. Disposal Considerations

Waste Disposal Dispose of material according to all federal, state, and local regulations.
Offer material to a licensed, professional waste disposal company to dispose of as unused product. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Section 14. Transport Information

DOT (US) Not dangerous goods.

IATA Not dangerous goods.

IMDG Not dangerous goods.

Further Information

Section 15. Regulatory Information

Reach No.

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 Components Chronic health hazard

Massachusetts Right To Know Components Estrone CAS #: 53-16-7 Revision Date: 1993-04-24

Pennsylvania Right To Know Components Estrone CAS #: 53-16-7 Revision Date: 1993-04-24

New Jersey Right To Know Components Estrone CAS #: 53-16-7 Revision Date: 1993-04-24

California Prop 65 Components WARNING! This product contains a chemical known to the State of California to cause cancer.
Estrone CAS #: 53-16-7 Revision Date: 2007-09-28

Section 16. Other Information

Other information The information in this document is believed to be correct but is not necessarily complete. LKT does not guarantee the accuracy of the information. The burden of verifying the information in this document rests solely upon the user.

Updated 7/16/2019

For emergencies in the USA, call
CHEMTREC 800-424-9300