

Trenbolone / Estradiol LA Formulation

Version 7.2 Revision Date: 16.11.2023 SDS Number: 26121-00022 Date of last issue: 29.09.2023
Date of first issue: 28.10.2014

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Trenbolone / Estradiol LA Formulation

Manufacturer or supplier's details

Company : MSD
Address : 50 Tuas West Drive
Singapore - Singapore 638408
Telephone : +1-908-740-4000
Emergency telephone number : 65 6697 2111 (24/7/365)
E-mail address : EHSDATASTEWARD@msd.com


Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product
Restrictions on use : Not applicable

2. HAZARDS IDENTIFICATION**GHS Classification**

Carcinogenicity : Category 1A
Reproductive toxicity : Category 1A
Specific target organ toxicity - repeated exposure : Category 1 (Liver, Bone, Blood, Endocrine system)
Specific target organ toxicity - repeated exposure (Oral) : Category 1 (Endocrine system, Blood)
Long-term (chronic) aquatic hazard : Category 1

GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H350 May cause cancer.
H360FD May damage fertility. May damage the unborn child.
H372 Causes damage to organs (Liver, Bone, Blood, Endo-

Trenbolone / Estradiol LA Formulation

Version 7.2 Revision Date: 16.11.2023 SDS Number: 26121-00022 Date of last issue: 29.09.2023
Date of first issue: 28.10.2014

crine system) through prolonged or repeated exposure.
H372 Causes damage to organs (Endocrine system, Blood) through prolonged or repeated exposure if swallowed.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P391 Collect spillage.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

Dust contact with the eyes can lead to mechanical irritation.
Contact with dust can cause mechanical irritation or drying of the skin.
May form explosive dust-air mixture during processing, handling or other means.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
17 β -hydroxyestra-4,9,11-trien-3-one 17-acetate	10161-34-9	>= 50 -< 70
Estradiol	50-28-2	>= 2.5 -< 10
Magnesium stearate	557-04-0	>= 1 -< 10

4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.

Trenbolone / Estradiol LA Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 29.09.2023
7.2	16.11.2023	26121-00022	Date of first issue: 28.10.2014

In case of skin contact	:	Get medical attention. In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
In case of eye contact	:	If in eyes, rinse well with water. Get medical attention if irritation develops and persists.
If swallowed	:	If swallowed, DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water.
Most important symptoms and effects, both acute and delayed	:	May cause cancer. May damage fertility. May damage the unborn child. Causes damage to organs through prolonged or repeated exposure. Contact with dust can cause mechanical irritation or drying of the skin. Dust contact with the eyes can lead to mechanical irritation.
Protection of first-aiders	:	First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
Notes to physician	:	Treat symptomatically and supportively.

5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO ₂) Dry chemical
Unsuitable extinguishing media	:	None known.
Specific hazards during fire-fighting	:	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Exposure to combustion products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides Metal oxides
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency	:	Use personal protective equipment. Follow safe handling advice (see section 7) and personal pro-
--	---	---

Trenbolone / Estradiol LA Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 29.09.2023
7.2	16.11.2023	26121-00022	Date of first issue: 28.10.2014

- gency procedures : tective equipment recommendations (see section 8).
- Environmental precautions : Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Sweep up or vacuum up spillage and collect in suitable container for disposal.
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

7. HANDLING AND STORAGE

- Technical measures : Static electricity may accumulate and ignite suspended dust causing an explosion.
Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
- Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.
- Advice on safe handling : Do not get on skin or clothing.
Do not breathe dust.
Do not swallow.
Avoid contact with eyes.
Wash skin thoroughly after handling.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep container tightly closed.
Minimize dust generation and accumulation.
Keep container closed when not in use.
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Do not eat, drink or smoke when using this product.
Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labelled containers.
Store locked up.
Keep tightly closed.
Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:
Strong oxidizing agents

Trenbolone / Estradiol LA Formulation

Version 7.2 Revision Date: 16.11.2023 SDS Number: 26121-00022 Date of last issue: 29.09.2023
 Date of first issue: 28.10.2014

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
17 β -hydroxyestra-4,9,11-trien-3-one 17-acetate	10161-34-9	TWA	0.2 $\mu\text{g}/\text{m}^3$ (OEB 5)	Internal
		Wipe limit	2 $\mu\text{g}/100 \text{ cm}^2$	Internal
Estradiol	50-28-2	TWA	0.05 $\mu\text{g}/\text{m}^3$ (OEB 5)	Internal
	Further information: Skin			
		Wipe limit	0.5 $\mu\text{g}/100 \text{ cm}^2$	Internal
Magnesium stearate	557-04-0	PEL (long term)	10 mg/m ³	SG OEL
		TWA (Inhalable particulate matter)	10 mg/m ³	ACGIH
		TWA (Respirable particulate matter)	3 mg/m ³	ACGIH

Engineering measures : Use closed processing systems or containment technologies to control at source (e.g., glove boxes/isolators) and to prevent leakage of compounds into the workplace. All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment. No open handling permitted. Totally enclosed processes and materials transport systems are required. Operations require the use of appropriate containment technology designed to prevent leakage of compounds into the workplace.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Particulates type

Hand protection

Material : Chemical-resistant gloves

Remarks : Consider double gloving.

Eye protection : Wear safety glasses with side shields or goggles. If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.

Trenbolone / Estradiol LA Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 29.09.2023
7.2	16.11.2023	26121-00022	Date of first issue: 28.10.2014

Skin and body protection	:	<p>Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.</p> <p>Work uniform or laboratory coat.</p> <p>Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.</p> <p>Use appropriate degowning techniques to remove potentially contaminated clothing.</p>
Hygiene measures	:	<p>If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.</p> <p>When using do not eat, drink or smoke.</p> <p>Wash contaminated clothing before re-use.</p> <p>The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.</p>

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	powder
Colour	:	No data available
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	May form explosive dust-air mixture during processing, handling or other means.
Flammability (liquids)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available

Trenbolone / Estradiol LA Formulation

Version 7.2 Revision Date: 16.11.2023 SDS Number: 26121-00022 Date of last issue: 29.09.2023
Date of first issue: 28.10.2014

Relative vapour density : No data available

Relative density : No data available

Density : No data available

Solubility(ies)
Water solubility : No data available

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity
Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Molecular weight : No data available

Particle size : No data available

10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : May form explosive dust-air mixture during processing, handling or other means.
Can react with strong oxidizing agents.

Conditions to avoid : Heat, flames and sparks.
Avoid dust formation.

Incompatible materials : Oxidizing agents

Hazardous decomposition products : No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Trenbolone / Estradiol LA Formulation

Version 7.2 Revision Date: 16.11.2023 SDS Number: 26121-00022 Date of last issue: 29.09.2023
Date of first issue: 28.10.2014

Components:**17 β -hydroxyestra-4,9,11-trien-3-one 17-acetate:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
LD50 (Mouse): 2,700 mg/kg

Estradiol:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Acute toxicity (other routes of administration) : LD50 (Rat): > 300 mg/kg
Application Route: Subcutaneous

Magnesium stearate:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 423
Assessment: The substance or mixture has no acute oral toxicity
Remarks: Based on data from similar materials
Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Remarks: Based on data from similar materials

Skin corrosion/irritation

Not classified based on available information.

Components:**Magnesium stearate:**

Species : Rabbit
Result : No skin irritation
Remarks : Based on data from similar materials

Serious eye damage/eye irritation

Not classified based on available information.

Components:**Estradiol:**

Result : No eye irritation

Magnesium stearate:

Species : Rabbit
Result : No eye irritation
Remarks : Based on data from similar materials

Trenbolone / Estradiol LA Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 29.09.2023
7.2	16.11.2023	26121-00022	Date of first issue: 28.10.2014

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

Estradiol:

Exposure routes	:	Skin contact
Species	:	Guinea pig
Assessment	:	Does not cause skin sensitisation.
Result	:	negative

Magnesium stearate:

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative
Remarks	:	Based on data from similar materials

Germ cell mutagenicity

Not classified based on available information.

Components:

17 β -hydroxyestra-4,9,11-trien-3-one 17-acetate:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES)
		Test system: Salmonella typhimurium
		Result: negative

	:	Test Type: Micronucleus test
		Test system: Chinese hamster fibroblasts
		Result: negative

Genotoxicity in vivo	:	Test Type: Micronucleus test
		Species: Mouse
		Result: negative

	:	Test Type: Micronucleus test
		Species: Rat
		Result: negative

Germ cell mutagenicity - Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.
-------------------------------------	---	--

Estradiol:

Genotoxicity in vitro	:	Test Type: DNA damage and repair, unscheduled DNA syn-
-----------------------	---	--

Trenbolone / Estradiol LA Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 29.09.2023
7.2	16.11.2023	26121-00022	Date of first issue: 28.10.2014

thesis in mammalian cells (in vitro)

Test system: mammalian cells

Result: positive

Test Type: Chromosome aberration test in vitro

Test system: mammalian cells

Result: positive

Test Type: Chromosomal aberration

Test system: mammalian cells

Result: positive

Genotoxicity in vivo : Test Type: Chromosomal aberration
Species: Rat
Cell type: Bone marrow
Result: negative

Test Type: Chromosomal aberration

Species: Mouse

Cell type: Bone marrow

Result: negative

Magnesium stearate:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

Remarks: Based on data from similar materials

Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Remarks: Based on data from similar materials

Carcinogenicity

May cause cancer.

Components:**17 β -hydroxyestra-4,9,11-trien-3-one 17-acetate:**

Species : Mouse, male and female

Application Route : Oral

Result : positive

Target Organs : Liver

Species : Rat, male and female

Application Route : Oral

Result : positive

Target Organs : Pancreas

Trenbolone / Estradiol LA Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 29.09.2023
7.2	16.11.2023	26121-00022	Date of first issue: 28.10.2014

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Estradiol:

Species : Mouse
 Application Route : Ingestion
 Exposure time : 24 Months
 LOAEL : 100 µg/kg
 Result : positive
 Target Organs : female reproductive organs

Species : Rat
 Application Route : Subcutaneous
 Exposure time : 13 weeks
 LOAEL : 20 mg/kg body weight
 Result : positive
 Target Organs : Endocrine system

Carcinogenicity - Assessment : Positive evidence from human epidemiological studies

Reproductive toxicity

May damage fertility. May damage the unborn child.

Components:**17β-hydroxyestra-4,9,11-trien-3-one 17-acetate:**

Effects on fertility : Test Type: Two-generation study
 Species: Rat
 Application Route: Oral
 Fertility: LOAEL: 0.18 mg/kg body weight
 Result: Postimplantation loss.

Effects on foetal development : Test Type: Embryo-foetal development
 Species: Rat
 Application Route: oral (feed)
 Developmental Toxicity: LOAEL: 20 mg/kg body weight
 Result: Malformations were observed.

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, based on animal experiments., Some evidence of adverse effects on development, based on animal experiments.

Estradiol:

Effects on fertility : Test Type: One-generation reproduction toxicity study
 Species: Rat
 Application Route: Ingestion
 Fertility: LOAEL: 0.5 mg/kg body weight
 Result: Effects on fertility

Test Type: One-generation reproduction toxicity study

Trenbolone / Estradiol LA Formulation

Version 7.2	Revision Date: 16.11.2023	SDS Number: 26121-00022	Date of last issue: 29.09.2023 Date of first issue: 28.10.2014
----------------	------------------------------	----------------------------	---

- Species: Rat
Duration of Single Treatment: 90 d
Fertility: LOAEL: 0.69 mg/kg body weight
Result: Effects on fertility
- Test Type: Two-generation study
Species: Mouse
Application Route: Oral
Fertility: LOAEL: 0.1 mg/kg body weight
Result: Effects on fertility
- Effects on foetal development : Test Type: Embryo-foetal development
Species: Mouse, female
Application Route: Subcutaneous
Teratogenicity: LOAEL: 4 mg/kg body weight
Symptoms: Malformations were observed.
Result: positive, Teratogenic effects
- Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Subcutaneous
Teratogenicity: LOAEL: 2.5 µg/kg body weight
Symptoms: Reduced body weight
Result: positive, Embryotoxic effects and adverse effects on the offspring were detected.
- Test Type: Embryo-foetal development
Species: Rat
Application Route: Subcutaneous
Developmental Toxicity: LOAEL: 0.2 mg/kg body weight
Symptoms: Early Resorptions / resorption rate, Reduced number of viable fetuses, Reduced body weight
Result: Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses
- Reproductive toxicity - Assessment : May damage fertility. May damage the unborn child.
- Magnesium stearate:**
- Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative
Remarks: Based on data from similar materials
- Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Trenbolone / Estradiol LA Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 29.09.2023
7.2	16.11.2023	26121-00022	Date of first issue: 28.10.2014

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Causes damage to organs (Liver, Bone, Blood, Endocrine system) through prolonged or repeated exposure.

Causes damage to organs (Endocrine system, Blood) through prolonged or repeated exposure if swallowed.

Components:

17 β -hydroxyestra-4,9,11-trien-3-one 17-acetate:

Exposure routes	:	Ingestion
Target Organs	:	Endocrine system, Blood
Assessment	:	Causes damage to organs through prolonged or repeated exposure.

Estradiol:

Target Organs	:	Liver, Bone, Blood, Endocrine system
Assessment	:	Causes damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

17 β -hydroxyestra-4,9,11-trien-3-one 17-acetate:

Species	:	Pig
NOAEL	:	0.004 mg/kg
LOAEL	:	0.08 mg/kg
Exposure time	:	14 Weeks
Target Organs	:	Testis, Ovary, Liver, Uterus (including cervix)

Species	:	Rat
NOAEL	:	0.04 mg/kg
LOAEL	:	3.6 mg/kg
Application Route	:	Oral
Exposure time	:	23 Weeks
Target Organs	:	Blood

Species	:	Monkey, female
NOAEL	:	0.01 mg/kg
LOAEL	:	0.04 mg/kg
Application Route	:	Oral
Exposure time	:	122 Days
Target Organs	:	female reproductive organs

Species	:	Monkey, male
NOAEL	:	0.002 mg/kg
LOAEL	:	0.04 mg/kg
Application Route	:	Oral
Exposure time	:	30 Days

Trenbolone / Estradiol LA Formulation

Version 7.2 Revision Date: 16.11.2023 SDS Number: 26121-00022 Date of last issue: 29.09.2023
Date of first issue: 28.10.2014

Target Organs : male reproductive organs

Species : Rat

NOAEL : 0.05 mg/kg

LOAEL : 0.1 mg/kg

Application Route : Oral

Exposure time : 3 Months

Target Organs : male reproductive organs, Ovary, Uterus (including cervix)

Estradiol:

Species : Rat

LOAEL : ≥ 0.17 mg/kg

Application Route : Ingestion

Exposure time : 90 d

Target Organs : Mammary gland, Ovary, Uterus (including cervix), Liver, Bone, Endocrine system, Blood, Testis

Magnesium stearate:

Species : Rat

NOAEL : > 100 mg/kg

Application Route : Ingestion

Exposure time : 90 Days

Remarks : Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

Experience with human exposure

Components:

17 β -hydroxyestra-4,9,11-trien-3-one 17-acetate:

Ingestion : Symptoms: male reproductive effects, gynecomastia, changes in libido

Estradiol:

Inhalation : Symptoms: tingling, Nose bleeding

Skin contact : Symptoms: Skin irritation, Redness, pruritis

Ingestion : Symptoms: Headache, Gastrointestinal disturbance, Dizziness, Vomiting, Diarrhoea, water retention, liver function change, changes in libido, breast tenderness, menstrual irregularities

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

17 β -hydroxyestra-4,9,11-trien-3-one 17-acetate:

Toxicity to fish (Chronic tox- : NOEC (Pimephales promelas (fathead minnow)): 0.000035

Trenbolone / Estradiol LA Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 29.09.2023
7.2	16.11.2023	26121-00022	Date of first issue: 28.10.2014

icity) mg/l
 Exposure time: 21 d
 Method: OECD Test Guideline 229
 Remarks: Based on data from similar materials

M-Factor (Chronic aquatic toxicity) : 1,000

Estradiol:

Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): 3.9 mg/l
 Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.7 mg/l
 Exposure time: 48 h

Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (green algae)): 1.7 mg/l
 Exposure time: 72 h
 Method: OECD Test Guideline 201

EC50 (Pseudokirchneriella subcapitata (green algae)): > 1.7 mg/l
 Exposure time: 72 h
 Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC (Oryzias latipes (Japanese medaka)): 0.000003 mg/l
 Exposure time: 160 d
 Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.2 mg/l
 Exposure time: 21 d

M-Factor (Chronic aquatic toxicity) : 1,000

Toxicity to microorganisms : EC50: > 100 mg/l
 Exposure time: 3 h
 Test Type: Respiration inhibition
 Method: OECD Test Guideline 209

NOEC: 100 mg/l
 Exposure time: 3 h
 Test Type: Respiration inhibition
 Method: OECD Test Guideline 209

Magnesium stearate:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): > 100 mg/l
 Exposure time: 48 h
 Method: DIN 38412
 Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 1 mg/l
 Exposure time: 47 h

Trenbolone / Estradiol LA Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 29.09.2023
7.2	16.11.2023	26121-00022	Date of first issue: 28.10.2014

Test substance: Water Accommodated Fraction
 Method: Directive 67/548/EEC, Annex V, C.2.
 Remarks: Based on data from similar materials
 No toxicity at the limit of solubility

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l
 Exposure time: 72 h
 Test substance: Water Accommodated Fraction
 Method: OECD Test Guideline 201
 Remarks: Based on data from similar materials
 No toxicity at the limit of solubility

NOELR (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l
 Exposure time: 72 h
 Test substance: Water Accommodated Fraction
 Method: OECD Test Guideline 201
 Remarks: Based on data from similar materials

Toxicity to microorganisms : EC10 (Pseudomonas putida): > 100 mg/l
 Exposure time: 16 h
 Test substance: Water Accommodated Fraction
 Remarks: Based on data from similar materials

Persistence and degradability**Components:****Estradiol:**

Biodegradability : Result: rapidly degradable
 Biodegradation: 84 %
 Exposure time: 24 hrs

Magnesium stearate:

Biodegradability : Result: Not biodegradable
 Remarks: Based on data from similar materials

Bioaccumulative potential**Components:****17 β -hydroxyestra-4,9,11-trien-3-one 17-acetate:**

Partition coefficient: n-octanol/water : log Pow: 3.77

Estradiol:

Partition coefficient: n-octanol/water : log Pow: 4.01

Magnesium stearate:

Trenbolone / Estradiol LA Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 29.09.2023
7.2	16.11.2023	26121-00022	Date of first issue: 28.10.2014

Partition coefficient: n-octanol/water : log Pow: > 4

Mobility in soil

Components:

Estradiol:

Distribution among environmental compartments : log Koc: 3.81

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Do not dispose of waste into sewer. Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal. If not otherwise specified: Dispose of as unused product.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 3077

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Estradiol, 17 β -hydroxyestra-4,9,11-trien-3-one 17-acetate)

Class : 9

Packing group : III

Labels : 9

Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 3077

Proper shipping name : Environmentally hazardous substance, solid, n.o.s.
(Estradiol, 17 β -hydroxyestra-4,9,11-trien-3-one 17-acetate)

Class : 9

Packing group : III

Labels : Miscellaneous

Packing instruction (cargo aircraft) : 956

Packing instruction (passenger aircraft) : 956

Environmentally hazardous : yes

IMDG-Code

UN number : UN 3077

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Trenbolone / Estradiol LA Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 29.09.2023
7.2	16.11.2023	26121-00022	Date of first issue: 28.10.2014

(Estradiol, 17 β -hydroxyestra-4,9,11-trien-3-one 17-acetate)

Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture****Workplace Safety and Health Act and Workplace Safety and Health (General Provisions) Regulations: This product is subjected to the SDS, labelling, PEL and other requirements in the Act/Regulations.**

Environmental Protection and Management Act and Environmental Protection and Management (Hazardous Substances) Regulations	:	Not applicable
--	---	----------------

Fire Safety (Petroleum and Flammable Materials) Regulations	:	Not applicable
---	---	----------------

The components of this product are reported in the following inventories:

AICS	:	not determined
------	---	----------------

DSL	:	not determined
-----	---	----------------

IECSC	:	not determined
-------	---	----------------

16. OTHER INFORMATION

Revision Date	:	16.11.2023
---------------	---	------------

Further information

Sources of key data used to compile the Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
---	---	---

Date format	:	dd.mm.yyyy
-------------	---	------------

Full text of other abbreviations

Trenbolone / Estradiol LA Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 29.09.2023
7.2	16.11.2023	26121-00022	Date of first issue: 28.10.2014

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
 SG OEL : Singapore. Workplace Safety and Health (General Provisions) Regulations - First Schedule Permissible Exposure Limits of Toxic Substances.

ACGIH / TWA : 8-hour, time-weighted average
 SG OEL / PEL (long term) : Permissible Exposure Level (PEL) Long Term

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

SG / EN