

Trenbolone / Estradiol Formulation

Version SDS Number: Date of last issue: 2024/07/06 Revision Date: 28287-00031 16.1 2024/09/28 Date of first issue: 2014/11/05

1. PRODUCT AND COMPANY IDENTIFICATION

Trenbolone / Estradiol Formulation Chemical product name

Other means of identification COOPERS REVALOR 400 GROWTH PROMOTANT FOR

GRASS FED HEIFERS AND STEERS (48945)

COOPERS REVALOR FLEX GROWTH PROMOTANT FOR

NON BREEDING CATTLE (58656)

COOPERS REVALOR S STEER GROWTH PROMOTANT

AND FINISHING IMPLANTS (46111)

COOPERS REVALOR-H GROWTH PROMOTANT AND

FINISHING IMPLANTS (47248)

Coopers Revalor XR Growth Promotant and Finishing Implants

(90903)

Supplier's company name, address and phone number

Company name of supplier MSD

Address Kumagaya, Saitama Prefecture, Xicheng 810 MSD Co., Ltd.

Menuma factory

Telephone 048-588-8411

EHSDATASTEWARD@msd.com E-mail address

Emergency telephone number: +1-908-423-6000

Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product Restrictions on use : Not applicable

2. HAZARDS IDENTIFICATION

GHS classification of chemical product

Carcinogenicity : Category 1A

Reproductive toxicity Category 1A

repeated exposure

Specific target organ toxicity - : Category 1 (Liver, Bone, Blood, Endocrine system)

repeated exposure (Oral)

Specific target organ toxicity - : Category 1 (Endocrine system, Blood)

Short-term (acute) aquatic

hazard

: Category 3



Trenbolone / Estradiol Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/06 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

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, Endocrine system) through prolonged or repeated exposure. H372 Causes damage to organs (Endocrine system, Blood) through prolonged or repeated exposure if swallowed.

H402 Harmful to aquatic life.

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 protec-

tion/ 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

Important symptoms and outlines of the emergency assumed

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.



Trenbolone / Estradiol Formulation

SDS Number: Date of last issue: 2024/07/06 Version Revision Date: 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)	ENCS No.
17β-hydroxyestra-4,9,11-trien-3-	10161-34-9	>= 58.8686 - <= 74.07	-
one 17-acetate			
Estradiol	50-28-2	>= 6.9027 - <= 12.5	-
Magnesium stearate	557-04-0	>= 1.4717 - <= 1.85	2-611

4. FIRST AID MEASURES

General advice In the case of accident or if you feel unwell, seek medical ad-

vice immediately.

When symptoms persist or in all cases of doubt seek medical

advice.

If inhaled If inhaled, remove to fresh air.

Get medical attention.

In case of skin contact 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.

If in eyes, rinse well with water. In case of eye contact

Get medical attention if irritation develops and persists.

If swallowed If swallowed, DO NOT induce vomiting.

Get medical attention.

Rinse mouth thoroughly with water. May cause cancer.

Most important symptoms and effects, both acute and

delayed

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.

First Aid responders should pay attention to self-protection, Protection of first-aiders

> and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Treat symptomatically and supportively. Notes to physician

5. FIREFIGHTING MEASURES

Suitable extinguishing media Water spray

> Alcohol-resistant foam Carbon dioxide (CO2)

Dry chemical



Trenbolone / Estradiol Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 2024/07/06

 16.1
 2024/09/28
 28287-00031
 Date of first issue: 2014/11/05

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 prod: :

ucts

Carbon oxides

Metal oxides

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances 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, protec: : tive equipment and emer-

gency procedures

Use personal protective equipment.

Follow safe handling advice (see section 7) and personal pro-

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 con-

tainer 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 deter-

mine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding

certain local or national requirements.



Trenbolone / Estradiol Formulation

SDS Number: Date of last issue: 2024/07/06 Version Revision Date: 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

7. HANDLING AND STORAGE

Handling

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.

Do not get on skin or clothing. Advice on safe handling

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 as-

sessment

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.

Avoidance of contact

Oxidizing agents

If exposure to chemical is likely during typical use, provide eye Hygiene measures

flushing systems and safety showers close to the working

place.

When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

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.

Storage

Conditions for safe storage Keep in properly labelled containers.

> Store locked up. Keep tightly closed.

Store in accordance with the particular national regulations.

Do not store with the following product types: Materials to avoid

Strong oxidizing agents

Packaging material : Unsuitable material: None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Threshold limit value and permissible exposure limits for each component in the work environment



Trenbolone / Estradiol Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/06 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Concentration standard / Permissible concentration	Basis
17β-hydroxyestra-4,9,11-trien- 3-one 17-acetate	10161-34-9	TWA	0.2 μg/m3 (OEB 5)	Internal
		Wipe limit	2 μg/100 cm ²	Internal
Estradiol	50-28-2	TWA	0.05 μg/m3 (OEB 5)	Internal
	Further information: Skin			
		Wipe limit	0.5 µg/100 cm ²	Internal
Magnesium stearate	557-04-0	TWA (Inhalable particulate matter)	10 mg/m3	ACGIH
		TWA (Respirable particulate matter)	3 mg/m3	ACGIH

Engineering measures

: Use closed processing systems or containment technologies to control at source (e.g., glove boxes/isolators) and to pre-

vent 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 expo-

sure assessment demonstrates exposures outside the rec-

ommended guidelines, use respiratory protection.

Filter type

Hand protection

Particulates type

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.

Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or

aerosols.

Skin and body protection : Work uniform or laboratory coat.

Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, dis-



Trenbolone / Estradiol Formulation

SDS Number: Date of last issue: 2024/07/06 Version **Revision Date:** 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

posable suits) to avoid exposed skin surfaces.

Use appropriate degowning techniques to remove potentially

contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state powder

Colour yellow

Odour No data available

Odour Threshold No data available

Melting point/freezing point No data available

Boiling point, initial boiling

point and boiling range

No data available

Flammability (solid, gas) May form explosive dust-air mixture during processing, han-

dling or other means.

Flammability (liquids) No data available

Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit / Up- : No data available

per flammability limit

Lower explosion limit / Lower flammability limit No data available

Flash point Not applicable

Decomposition temperature No data available

pΗ No data available

Evaporation rate No data available

Auto-ignition temperature No data available

Viscosity

Viscosity, kinematic No data available

Solubility(ies)

Water solubility No data available

Partition coefficient: n-

octanol/water

No data available

No data available Vapour pressure

Density and / or relative density



Trenbolone / Estradiol Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/06 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

Relative density : No data available

Density : No data available

Relative vapour density : No data available

Explosive properties : Not explosive

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

Molecular weight : No data available

Particle characteristics

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 reac- :

tions

May form explosive dust-air mixture during processing, han-

dling or other means.

Can react with strong oxidizing agents.

Conditions to avoid : Heat, flames and sparks.

Avoid dust formation.

Incompatible materials

Hazardous decomposition

products

Oxidizing agents

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.

Components:

17β-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



Trenbolone / Estradiol Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/06 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

Acute toxicity (other routes of : LD50 (Rat): > 300 mg/kg

administration) 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 tox-

icity

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

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.



Trenbolone / Estradiol Formulation

Version SDS Number: Date of last issue: 2024/07/06 Revision Date: 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

Result negative

Magnesium stearate:

Test Type : Maximisation Test : Skin contact Exposure routes Species : Guinea pig

Method : OECD Test Guideline 406

Result : negative

Based on data from similar materials Remarks

Germ cell mutagenicity

Not classified based on available information.

Components:

17β-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-

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

Test Type: Chromosomal aberration Genotoxicity in vivo

Species: Rat



Trenbolone / Estradiol Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/06 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

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:

17β-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

Carcinogenicity - Assess-

ment

: 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



Trenbolone / Estradiol Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/06 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

LOAEL : 20 mg/kg body weight

Result : positive

Target Organs : Endocrine system

Carcinogenicity - Assess-

ment

: 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 develop-

ment

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 - As-

sessment

Some evidence of adverse effects on sexual function and

fertility, based on animal experiments., Some evidence of adverse effects on development, based on animal experi-

ments.

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

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 develop-

ment

Test Type: Embryo-foetal development

Species: Mouse, female

Application Route: Subcutaneous



Trenbolone / Estradiol Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/06 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

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 - As-

sessment

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 develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

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:

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

Exposure routes : Ingestion

Target Organs : Endocrine system, Blood



Trenbolone / Estradiol Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/06 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

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:

17β-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

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



Trenbolone / Estradiol Formulation

SDS Number: Date of last issue: 2024/07/06 Version Revision Date: 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

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

: Based on data from similar materials Remarks

Aspiration toxicity

Not classified based on available information.

Experience with human exposure

Components:

17β-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

Symptoms: Headache, Gastrointestinal disturbance, Dizzi-Ingestion

ness, Vomiting, Diarrhoea, water retention, liver function change, changes in libido, breast tenderness, menstrual irreg-

ularities

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

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

Toxicity to fish (Chronic toxicity)

NOEC (Pimephales promelas (fathead minnow)): 0.000035

mg/l Exposure time: 21 d

Method: OECD Test Guideline 229

Remarks: Based on data from similar materials

M-Factor (Chronic aquatic

: 1,000

toxicity)

Estradiol:

Toxicity to fish LC50 (Oryzias latipes (Japanese medaka)): 3.9 mg/l



Trenbolone / Estradiol Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/06 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

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

1,000

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to fish (Chronic tox-

icity)

NOEC (Oryzias latipes (Japanese medaka)): 0.000003 mg/l

Exposure time: 160 d

Exposure time: 21 d

Method: OECD Test Guideline 210

NOEC (Daphnia magna (Water flea)): 0.2 mg/l

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

M-Factor (Chronic aquatic

Toxicity to microorganisms

toxicity)

ity)

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

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



Trenbolone / Estradiol Formulation

Version Rev 16.1 202

Revision Date: 2024/09/28

SDS Number: 28287-00031

Date of last issue: 2024/07/06 Date of first issue: 2014/11/05

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:

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

Partition coefficient: n-

octanol/water

log Pow: 3.77

Estradiol:

Partition coefficient: n-

: log Pow: 4.01

octanol/water

Magnesium stearate:

Partition coefficient: n-

: log Pow: > 4

octanol/water

Mobility in soil

Components:

Estradiol:

Distribution among environ-

mental compartments

log Koc: 3.81



Trenbolone / Estradiol Formulation

Version SDS Number: Date of last issue: 2024/07/06 Revision Date: 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

Hazardous to the ozone layer

Not applicable

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues Dispose of in accordance with local regulations.

Do not dispose of waste into sewer.

Contaminated packaging Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

If not otherwise specified: Dispose of as unused product.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN 3077 UN number

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

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

Class 9 Ш Packing group Labels 9 Environmentally hazardous yes

IATA-DGR

UN 3077 UN/ID No.

Proper shipping name Environmentally hazardous substance, solid, n.o.s.

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

Class 9 Packing group Ш

Miscellaneous Labels

Packing instruction (cargo

aircraft)

956

Packing instruction (passen-

956

ger aircraft)

Environmentally hazardous yes

IMDG-Code

UN number UN 3077

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

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

Class 9 Packing group Ш Labels 9 F-A, S-F **EmS Code** Marine pollutant yes



Trenbolone / Estradiol Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/06 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

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

Not applicable for product as supplied.

National Regulations

Refer to section 15 for specific national regulation.

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.

ERG Code : 171

15. REGULATORY INFORMATION

Related Regulations

Fire Service Law

Not applicable to dangerous materials / designated flammables.

Chemical Substance Control Law

Not applicable for Specified Chemical Substance, Monitoring Chemical Substance and Priority Assessment Chemical Substance.

Industrial Safety and Health Law

Harmful Substances Prohibited from Manufacture

Not applicable

Harmful Substances Required Permission for Manufacture

Not applicable

Substances Prevented From Impairment of Health

Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity

Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity

Not applicable

Substances Subject to be Notified Names

Article 57-2 (Enforcement Order Table 9)

ration of E (Emorganion Grade Table 6)		
Chemical name	Concentration (%)	Remarks
Magnesium stearate	>=1.4717 - <=1.85	-

Substances Subject to be Indicated Names

Article 57 (Enforcement Order Article 18)

Article 97 (Enforcement Order Article 10)				
Chemical name	Remarks			
Magnesium stearate	-			



Trenbolone / Estradiol Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/06 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

Skin and Eye Damage Substances for PPE Requirements (ISHL MO Art. 594-2)

Not applicable

Carcinogenic Substances (Article 577-2 of the Occupational Health and Safety Regulations)

Not applicable

Ordinance on Prevention of Hazards Due to Specified Chemical Substances

Not applicable

Ordinance on Prevention of Lead Poisoning

Not applicable

Ordinance on Prevention of Tetraalkyl Lead Poisoning

Not applicable

Ordinance on Prevention of Organic Solvent Poisoning

Not applicable

Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)

Not applicable

Poisonous and Deleterious Substances Control Law

Not applicable

Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

Not applicable

High Pressure Gas Safety Act

Not applicable

Explosive Control Law

Not applicable

Vessel Safety Law

Miscellaneous dangerous substances and articles (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)

Aviation Law

Miscellaneous dangerous substances and articles (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)

Marine Pollution and Sea Disaster Prevention etc Law

Bulk transportation : Not classified as noxious liquid substance

Pack transportation : Classified as marine pollutant

Narcotics and Psychotropics Control Act

Narcotic or Psychotropic Raw Material (Export / Import Permission)

Not applicable

Specific Narcotic or Psychotropic Raw Material (Export / Import permission)

Not applicable



Trenbolone / Estradiol Formulation

SDS Number: Date of last issue: 2024/07/06 Version Revision Date: 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

Waste Disposal and Public Cleansing Law

Industrial waste

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

AICS not determined

DSL not determined

IECSC not determined

16. OTHER INFORMATION

In this SDS, if the concentration of substances subject to notification under the Industrial Safety and Health Law is indicated as a range, it includes cases where it is a trade secret.

Further information

compile the Safety Data

Sheet

Sources of key data used to : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

cy, http://echa.europa.eu/

Date format : yyyy/mm/dd

Full text of other abbreviations

ACGIH USA. ACGIH Threshold Limit Values (TLV)

ACGIH / TWA : 8-hour, time-weighted average

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, Evalua-



Trenbolone / Estradiol Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/06 16.1 2024/09/28 28287-00031 Date of first issue: 2014/11/05

tion, 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.

JP / EN