Material Safety Data Sheet

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Version 1.3
According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

Product Name	TESTOSTERONE——DEA SCHEDULE III
Product Number	T1500
Company	Sigma-Aldrich Pty, Ltd Unit 2, 14 Anella Avenue Castle Hill NSW 1765 Australia
Technical Phone #	+61 2 9841 0555
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2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
TESTOSTERONE	58-22-0	200-370-5	None

Formula	C19H28O2
Molecular Weight	288.43 AMU
Synonyms	Androlin * Androst-4-en-3-one, 17-hydroxy-, (17-beta)- * Andronaq * Androst-4-en-17beta-ol-3-one * delta(sup 4)-Androsten-17(beta)-ol-3-one * Androst-4-en-3-one, 17-beta-hydroxy- * Andrusol * Cristerone T * Geno-cristaux gremy * Homosteron * Homosterone * 17-beta-Hydroxy-delta(sup 4)-androsten-3-one * 17-beta-Hydroxyandrost-4-en-3-one * 17-beta-Hydroxy-4-androsten-3-one * 7-beta-Hydroxyandrost-4-en-3-one * Malestrone (amps) * Mertestate * Neo-testis * Oreton-F * Orquisteron * Perandren * Percutacrine androgenique * Primotest * Primoteston * Sustanone * Synandrol F * Teslen * Testandrone * Testiculosterone * Testobase * Testopropon * Testosteroid * Testosteron * trans-Testosterone * Testosterone hydrate * Testostosterone * Testoviron schering * Testoviron T * Testrone * Testryl * Virormone * Virosterone

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
May cause cancer. Possible risk of harm to the unborn child.

4 - First Aid Measures

AFTER INHALATION
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

AFTER EYE CONTACT
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION
If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA
Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS
Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area. Shut off all sources of ignition.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Wear disposable coveralls and discard them after use.

ENVIRONMENTAL PRECAUTION(S)
Avoid contaminating water supply. Avoid contaminating sewers and waterways with this material.

METHODS FOR CLEANING UP
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING
Directions for Safe Handling: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE
Conditions of Storage: Keep tightly closed.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

GENERAL HYGIENE MEASURES
Wash contaminated clothing before reuse. Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory Protection: Government approved respirator.
Hand Protection: Compatible chemical-resistant gloves.
Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance — Physical State: Solid

Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	152 °C	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	N/A	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water:Insoluble.	

10 - Stability and Reactivity

STABILITY
Stable: Stable.
Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: XA3030000

ACUTE TOXICITY

LD50
Oral

Mammal
> 5000 mg/kg

ROUTE OF EXPOSURE
Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.

TARGET ORGAN INFORMATION
Reproductive system.

CHRONIC EXPOSURE - CARCINOGEN
Result: This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

Mouse
Route of Application: Oral
Exposure Time: 52D
Result: Tumorigenic:Neoplastic by RTECS criteria. Tumorigenic Effects: 0varian tumors.

Mouse
Route of Application: Subcutaneous
Exposure Time: 5D
Result: Tumorigenic:Neoplastic by RTECS criteria. Endocrine:Adrenal cortex tumors. Tumorigenic Effects: Other reproductive system tumors.

Mouse
Route of Application: Implant
Exposure Time: 50D
Result: Tumorigenic:Neoplastic by RTECS criteria. Tumorigenic Effects: 0varian tumors.

IARC CARCINOGEN LIST
Rating: Group 2A Group 2A

CHRONIC EXPOSURE - MUTAGEN

Human
50 UMOL/L
Cell Type: lymphocyte
DNA inhibition

Human
100 UG/L
Cell Type: kidney
DNA inhibition

Human
100 UG/L
Cell Type: kidney
Cytogenetic analysis

Rat
10 MG/KG
Parenteral
Unscheduled DNA synthesis

Rat
100 UMOL/L
Cell Type: liver
DNA inhibition

Mouse
100 UMOL/L
Cell Type: liver
DNA damage

Hamster
5 MG/L
Cell Type: Embryo
Morphological transformation.

Mammal
10 UMOL/L
Cell Type: lymphocyte
DNA damage

Mammal
1 UMOL/L
Cell Type: liver
DNA damage

CHRONIC EXPOSURE - TERATOGEN
Result: Possible risk of congenital malformation in the fetus.

Species: Woman
Dose: 34600 UG/KG
Route of Application: Unreported
Exposure Time: (7-13W PREG)
Result: Specific Developmental Abnormalities: Urogenital system.

Species: Rat
Dose: 100 MG/KG
Route of Application: Oral
Exposure Time: (17-20D PREG)
Result: Specific Developmental Abnormalities: Urogenital system.

Species: Rat
Dose: 8 MG/KG
Route of Application: Intramuscular
Exposure Time: (13-20D PREG)
Result: Specific Developmental Abnormalities: Skin and skin appendages. Specific Developmental Abnormalities: Urogenital system.

Species: Guinea pig
Dose: 86 MG/KG
Route of Application: Subcutaneous
Exposure Time: (18-60D PREG)
Result: Specific Developmental Abnormalities: Endocrine system. Specific Developmental Abnormalities: Urogenital system.

Species: Domestic Animals
Dose: 6398 UG/KG
Route of Application: Implant
Exposure Time: (30-80D PREG)
Result: Specific Developmental Abnormalities: Urogenital system.

Species: Domestic Animals
Dose: 6491 UG/KG
Route of Application: Implant
Exposure Time: (13-20W PREG)
Result: Effects on Embryo or Fetus: Fetal death.

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD
Result: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Species: Man
Dose: 17 MG/KG
Route of Application: Implant
Exposure Time: (26W MALE)
Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology,motility, and count). Paternal Effects: Other effects on male.

Species: Rat
Dose: 64 MG/KG
Route of Application: Oral
Exposure Time: (10D MALE)
Result: Paternal Effects: Prostate, seminal vessicle, Cowper's gland, accessory glands.

Species: Rat
Dose: 25 MG/KG
Route of Application: Subcutaneous
Exposure Time: (17D PREG)
Result: Effects on Newborn: Physical. Effects on Newborn: Delayed effects.

Species: Rat
Dose: 7 MG/KG
Route of Application: Subcutaneous
Exposure Time: (10-16D PREG)
Result: Effects on Fertility: Abortion.

Species: Rat
Dose: 4 MG/KG
Route of Application: Subcutaneous
Exposure Time: (9D PREG)
Result: Maternal Effects: Parturition. Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Rat
Dose: 20 MG/KG
Route of Application: Subcutaneous
Exposure Time: (5D PREG)
Result: Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea).

Species: Rat
Dose: 8400 UG/KG
Route of Application: Subcutaneous
Exposure Time: (21D MALE)
Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology,motility, and count). Paternal Effects: Testes, epididymis, sperm duct. Paternal Effects: Prostate, seminal vessicle, Cowper's gland, accessory glands.

Species: Rat
Dose: 1400 UG/KG
Route of Application: Subcutaneous
Exposure Time: (14D PRE)
Result: Effects on Fertility: Other measures of fertility

Species: Rat
Dose: 700 UG/KG
Route of Application: Subcutaneous
Exposure Time: (14D PRE)
Result: Maternal Effects: Ovaries, fallopian tubes. Maternal Effects: Uterus, cervix, vagina.

Species: Rat
Dose: 60 MG/KG
Route of Application: Intramuscular
Exposure Time: (3-7D PREG)
Result: Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea).

Species: Rat
Dose: 280 UG/KG
Route of Application: Intramuscular
Exposure Time: (14D MALE)
Result: Paternal Effects: Testes, epididymis, sperm duct. Paternal Effects: Prostate, seminal vessicle, Cowper's gland, accessory glands.

Species: Rat
Dose: 2500 UG/KG
Route of Application: Parenteral
Exposure Time: (10D PRE)
Result: Maternal Effects: Ovaries, fallopian tubes.

Species: Rat
Dose: 4 MG/KG
Route of Application: Parenteral
Exposure Time: (3W MALE)
Result: Paternal Effects: Testes, epididymis, sperm duct.

Species: Rat
Dose: 8 MG/KG
Route of Application: Parenteral
Exposure Time: (3W MALE)
Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology,motility, and count).

Species: Rat
Dose: 10440 UG/KG
Route of Application: Implant
Exposure Time: (30D MALE)
Result: Paternal Effects: Testes, epididymis, sperm duct.

Species: Rat
Dose: 27 MG/KG
Route of Application: Implant
Exposure Time: (90D MALE)
Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology,motility, and count). Paternal Effects: Testes, epididymis, sperm duct. Effects on Fertility:

Male fertility index (e.g., # males impregnating females per # males exposed to fertile nonpregnant females).

Species: Rat
Dose: 10920 UG/KG
Route of Application: Implant
Exposure Time: (91D MALE)
Result: Paternal Effects: Prostate, seminal vessicle, Cowper's gland, accessory glands.

Species: Rat
Dose: 33300 UG/KG
Route of Application: Implant
Exposure Time: (15W MALE)
Result: Paternal Effects: Other effects on male. Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth).

Species: Rat
Dose: 24 MG/KG
Route of Application: Intratesticular
Exposure Time: (30D MALE)
Result: Paternal Effects: Testes, epididymis, sperm duct. Paternal Effects: Prostate, seminal vessicle, Cowper's gland, accessory glands.

Species: Mouse
Dose: 15 GM/KG
Route of Application: Oral
Exposure Time: (8-12D PREG)
Result: Effects on Newborn: Live birth index (# fetuses per litter; measured after birth). Effects on Newborn: Viability index (e.g., # alive at day 4 per # born alive).

Species: Mouse
Dose: 40 MG/KG
Route of Application: Subcutaneous
Exposure Time: (10D PRE)
Result: Maternal Effects: Uterus, cervix, vagina. Maternal Effects: Other effects.

Species: Mouse
Dose: 168 MG/KG
Route of Application: Subcutaneous
Exposure Time: (3D PRE)
Result: Maternal Effects: Uterus, cervix, vagina.

Species: Mouse
Dose: 10 MG/KG
Route of Application: Subcutaneous
Exposure Time: (5D PRE)
Result: Maternal Effects: Uterus, cervix, vagina. Effects on Fertility: Female fertility index (e.g., # females pregnant per # sperm positive females; # females pregnant per # females mated).

Species: Mouse
Dose: 4524 MG/KG
Route of Application: Parenteral
Exposure Time: (19D MALE)

Result: Paternal Effects: Testes, epididymis, sperm duct.

Species: Mouse
Dose: 9583 NG/KG
Route of Application: Parenteral
Exposure Time: (1D PRE)
Result: Maternal Effects: Uterus, cervix, vagina.

Species: Monkey
Dose: 1426 UG/KG
Route of Application: Implant
Exposure Time: (70D MALE)
Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology,motility, and count).

Species: Rabbit
Dose: 30 MG/KG
Route of Application: Subcutaneous
Exposure Time: (1-3D PREG)
Result: Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea).

Species: Rabbit
Dose: 6 MG/KG
Route of Application: Unreported
Exposure Time: (1-3D PREG)
Result: Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea).

Species: Hamster
Dose: 180 MG/KG
Route of Application: Subcutaneous
Exposure Time: (3-8D PREG)
Result: Effects on Fertility: Female fertility index (e.g., # females pregnant per # sperm positive females; # females pregnant per # females mated).

Species: Domestic Animals
Dose: 13333 UG/KG
Route of Application: Subcutaneous
Exposure Time: (50D PREG)
Result: Effects on Newborn: Behavioral.

Species: Domestic Animals
Dose: 18 UG/KG
Route of Application: Implant
Exposure Time: (7-14W PREG)
Result: Effects on Fertility: Mating performance (e.g., # sperm positive females per # females mated; # copulations per # estrus cycles).

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL
Contact the Drug Enforcement Administration concerning the disposal of controlled substances. Observe all federal, state, and

local environmental regulations.

14 - Transport Information

RID/ADR
Non-hazardous for road transport.

IMDG
Non-hazardous for sea transport.

IATA
Non-hazardous for air transport.

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES
INDICATION OF DANGER: T
Toxic.
R-PHRASES: 45 63
May cause cancer. Possible risk of harm to the unborn child.
S-PHRASES: 53 36/37 45
Avoid exposure - obtain special instructions before use. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16 - Other Information

WARRANTY
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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