



# TESTOSTERONE (16,16,17-D3, 98%)

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 22/03/2011  
DLM-6224

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Version: 3.1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product form	: Substance
Substance name	: TESTOSTERONE (16,16,17-D3, 98%)
EC No	: 200-370-5 (Unlabeled)
CAS No	: 77546-39-5
Product code	: DLM-6224
Formula	: C19H25D3O2
Synonyms	: trans-Testosterone / 17 $\beta$ -Hydroxy-3-oxo-4-androstene / 17 $\beta$ -Hydroxy-4-androsten-3-one / 4-Androsten-17 $\beta$ -ol-3-one

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

#### 1.2.1. Relevant identified uses

Main use category	: Professional use
Industrial/Professional use spec	: For professional use only

#### 1.2.2. Uses advised against

No additional information available

### 1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.  
50 Frontage Road  
Andover, MA 01810  
USA

USA: 1-800-322-1174 Int: 1-978-749-8000  
[cilsales@isotope.com](mailto:cilsales@isotope.com) [www.isotope.com](http://www.isotope.com)

### Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)  
International: 1-703-741-5970 (24 hours)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Carc. 1A H350  
Repr. 1B H360

Full text of hazard classes and H-statements : see section 16

#### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Carc.Cat.1; R45  
Carc.Cat.1; R49  
Repr.Cat.1; R60  
Repr.Cat.1; R61

Full text of R-phrases: see section 16

#### GHS-US classification

Carc. 1A H350  
Repr. 1B H360

Full text of H statements : see section 16

#### Adverse physicochemical, human health and environmental effects

No additional information available

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## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 2.2. Label elements

#### Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS08

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H350 - May cause cancer (if swallowed, if inhaled, in contact with skin)  
H360 - May damage fertility, May damage the unborn child (in contact with skin, if inhaled, if swallowed)

Precautionary statements (CLP) :

P280 - Wear protective clothing, protective gloves  
P308+P313 - IF exposed or concerned: Get medical advice/attention  
P405 - Store locked up  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

#### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS08

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H350 - May cause cancer (Dermal, Inhalation, oral)  
H360 - May damage fertility or the unborn child (Dermal, Inhalation, oral)

Precautionary statements (GHS-US) :

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P280 - Wear protective clothing, protective gloves  
P308+P313 - If exposed or concerned: Get medical advice/attention  
P405 - Store locked up  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
TESTOSTERONE (16,16,17-D3, 98%)	(CAS No) 77546-39-5 (EC No) 200-370-5 (Unlabeled) (EC Index No)	100	Carc.Cat.1; R45 Carc.Cat.1; R49 Repr.Cat.1; R60 Repr.Cat.1; R61
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
TESTOSTERONE (16,16,17-D3, 98%)	(CAS No) 77546-39-5 (EC No) 200-370-5 (Unlabeled) (EC Index No)	100	Carc. 1A, H350 Repr. 1B, H360

Full text of R- and H- phrases: see section 16

Name	Product identifier	%	GHS-US classification
TESTOSTERONE (16,16,17-D3, 98%) (Main constituent)	(CAS No) 77546-39-5	100	Carc. 1A, H350 Repr. 1B, H360

Full text of H-phrases: see section 16

### 3.2. Mixtures

Not applicable

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DLM-6224

## Safety Data Sheet

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### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : If you feel unwell, seek medical advice (show the label where possible). Evacuate danger area.
- First-aid measures after inhalation : When symptoms occur: go into open air and ventilate suspected area. If not breathing, give artificial respiration. Get medical advice/attention.
- First-aid measures after skin contact : Wash with plenty of soap and water. Get immediate medical advice/attention.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes.
- First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention.

#### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after inhalation : May be harmful if inhaled. May cause respiratory irritation.
- Symptoms/injuries after skin contact : May be harmful in contact with skin. May cause moderate irritation.
- Symptoms/injuries after eye contact : May cause eye irritation.
- Symptoms/injuries after ingestion : May be harmful if swallowed.

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Water spray, dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>).

#### 5.2. Special hazards arising from the substance or mixture

No additional information available

#### 5.3. Advice for firefighters

- Firefighting instructions : Fight fire with normal precautions from a reasonable distance. Wear a self contained breathing apparatus.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Avoid breathing vapors, mist, gas. Avoid dust formation. Use personal protective equipment as required. Ensure adequate air ventilation. Evacuate danger area. Avoid breathing dust, mist or spray.

##### 6.1.2. For emergency responders

No additional information available

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

- For containment : Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal.

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Provide adequate ventilation to minimize dust and/or vapor concentrations. Avoid contact with skin and eyes. Avoid dust formation. May form combustible dust concentrations in air. Provide appropriate exhaust ventilation at places where dust is formed.
- Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

#### 7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Store in a well-ventilated place. Keep container tightly closed.
- Storage conditions : Store at room temperature away from light and moisture.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

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DLM-6224

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### 8.2. Exposure controls

- Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
- Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



- Materials for protective clothing : Wear suitable protective clothing and gloves.
- Hand protection : Wear suitable protective clothing and gloves.
- Eye protection : Wear eye protection. Chemical goggles or face shield with safety glasses.
- Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection.
- Respiratory protection : In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.
- Environmental exposure controls : Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

- Physical state : Solid
- Appearance : Crystalline powder.
- Molecular mass : 291.44 g/mol (Labeled)
- Color : white.
- Odor : No data available
- Odor threshold : No data available
- pH : No data available
- Relative evaporation rate (butyl acetate=1) : No data available
- Melting point : 153 - 155 °C (307 - 311 °F)
- Freezing point : No data available
- Boiling point : No data available
- Flash point : No data available
- Auto-ignition temperature : No data available
- Decomposition temperature : No data available
- Flammability (solid, gas) : No data available
- Vapor pressure : No data available
- Relative vapor density at 20 °C : No data available
- Relative density : 1.17 g/cm<sup>3</sup> at 20 °C (68 °F)
- Solubility : No data available
- Log Pow : 2.84 at 25 °C (77 °F)
- Log Kow : No data available
- Viscosity, kinematic : No data available
- Viscosity, dynamic : No data available
- Explosive properties : No data available
- Oxidizing properties : No data available
- Explosion limits : No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable if stored under recommended conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

No additional information available

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DLM-6224

## Safety Data Sheet

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### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Carbon oxides (CO, CO<sub>2</sub>).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected human carcinogen{0}
Reproductive toxicity	: Probable human reproductive toxin/teratogen.
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
IARC group	: 2A
Symptoms/injuries after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/injuries after skin contact	: May be harmful in contact with skin. May cause moderate irritation.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: May be harmful if swallowed.

## SECTION 12: Ecological information

### 12.1. Toxicity

TESTOSTERONE (16,16,17-D3, 98%) (77546-39-5)	
ErC50 (algae)	0.5 - 0.7 mg/l static test EC50 - Desmodesmus subspicatus (green algae) - 72 h (OECD Test Guideline 201)
NOEC chronic crustacea	6.2 mg/l static test NOEC - Daphnia magna (Water flea) - 48 h (OECD Test Guideline 202)

### 12.2. Persistence and degradability

TESTOSTERONE (16,16,17-D3, 98%) (77546-39-5)	
Biodegradation	Aerobic - Result: Readily biodegradable

### 12.3. Bioaccumulative potential

TESTOSTERONE (16,16,17-D3, 98%) (77546-39-5)	
Log Pow	2.84 at 25 °C (77 °F)

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

Other adverse effects : Very toxic to aquatic life with long lasting effects. Avoid release to the environment. Disposal must be done according to official regulations.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional legislation (waste)	: Waste materials should be disposed of under conditions which meet Federal, State, and Local environmental control regulations.
Product/Packaging disposal recommendations:	: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Ecology - waste materials	: Dispose of as unused product.

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### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (DOT) : Not Regulated  
DOT NA no. : Not Regulated

#### 14.2. IATA/IMDG

Proper Shipping Name : Environmentally hazardous substances, solid, n.o.s.  
Class : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140  
Hazard labels : 9 - Class 9 (Miscellaneous dangerous materials)



Symbols : G - Identifies PSN requiring a technical name  
Packing group : III - Minor Danger  
Special Provisions (49 CFR 172.102) : 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies.  
146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination.  
335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s.," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leak-proof when used as bulk packaging.  
A112 - Notwithstanding the quantity limits shown in Column (9A) and (9B) for this entry, the following IBCs are authorized for transportation aboard passenger and cargo-only aircraft. Each IBC may not exceed a maximum net quantity of 1,000 kg:  
a. Metal: 11A, 11B, 11N, 21A, 21B and 21N  
b. Rigid plastics: 11H1, 11H2, 21H1 and 21H2  
c. Composite with plastic inner receptacle: 11HZ1, 11HZ2, 21HZ1 and 21HZ2  
d. Fiberboard: 11G  
e. Wooden: 11C, 11D and 11F (with inner liners)  
f. Flexible: 13H2, 13H3, 13H4, 13H5, 13L2, 13L3, 13L4, 13M1 and 13M2 (flexible IBCs must be sift-proof and water resistant or must be fitted with a sift-proof and water resistant liner).  
B54 - Open-top, sift-proof rail cars are also authorized.  
IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).  
IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner.  
N20 - A 5M1 multi-wall paper bag is authorized if transported in a closed transport vehicle.  
T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2)  
TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.  
Packaging Exceptions (49 CFR 173.xxx) : 155  
Packaging Non Bulk (49 CFR 173.xxx) : 213  
Packaging Bulk (49 CFR 173.xxx) : 240

#### 14.3. Additional information

Emergency Response Guide (ERG) Number : 171  
Other information : No supplementary information available.

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## Safety Data Sheet

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Special transport precautions : Not classified as dangerous in the meaning of transport regulations.

### Overland transport

Packing group (ADR) : III  
Class (ADR) : 9 - Miscellaneous dangerous substances and articles  
Hazard identification number (Kemler No.) : 90  
Classification code (ADR) : M7  
Hazard labels (ADR) : 9 - Miscellaneous dangerous substances and articles



Orange plates :

Tunnel restriction code (ADR) : E  
Limited quantities (ADR) : 5kg  
EAC : 2Z  
Excepted quantities (ADR) : E1

### Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.  
MFAG-No : 171

### Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : No limit  
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : No limit  
Civil Aeronautics Law : Miscellaneous dangerous substances & articles

### 14.4. Environmental hazards

Other information : No supplementary information available.

### 14.5. Special precautions for user

Special transport precautions : Not classified as dangerous in the meaning of transport regulations.

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

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

TESTOSTERONE (16,16,17-D3, 98%) (77546-39-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.

### 15.2. International regulations

#### CANADA

TESTOSTERONE (16,16,17-D3, 98%) (77546-39-5)
Listed on the Canadian DSL (Domestic Substances List)

# TESTOSTERONE (16,16,17-D3, 98%)

DLM-6224

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 15.2.1. National regulations

No additional information available

### 15.3. US State regulations

TESTOSTERONE (16,16,17-D3, 98%)(77546-39-5)	
U.S. - California - Proposition 65 - Carcinogens List	Yes
U.S. - California - Proposition 65 - Developmental Toxicity	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Yes
State or local regulations	U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List

## SECTION 16: Other information

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

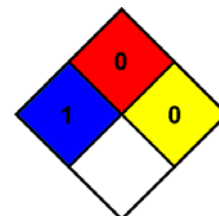
Full text of R-, H- and EUH-phrases:

Carc. 1A	Carcinogenicity Category 1A
Repr. 1B	Reproductive toxicity Category 1B
H350	May cause cancer
H360	May damage fertility or the unborn child
R45	May cause cancer
R49	May cause cancer by inhalation
R60	May impair fertility
R61	May cause harm to the unborn child

NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard : 0 - Materials that will not burn under typical dire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



### HMIS III Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 0 Minimal Hazard

Physical : 0 Minimal Hazard

CIL Multi-Solvent Mixture SDS

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*