

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

<b>Catalogue Number</b>	CS-T-57132
<b>Product Name</b>	Drostanolone
<b>CAS No.</b>	58-19-5
<b>Category</b>	API
<b>Synonyms</b>	Not available
<b>Brand</b>	Clearsynth Labs Ltd.
<b>Identified uses</b>	Laboratory Chemicals
<b>Uses advised against</b>	Not available
<b>Company</b>	Clearsynth Labs Ltd. Mumbai, India
<b>Emergency Phone #</b>	+91-22-245045900
<b>REACH No.</b>	Not available

### SECTION 2: Hazards identification

**Disclaimer:** This is sample MSDS. Please email [sales@clearsynth.com](mailto:sales@clearsynth.com) for more details.

#### 2.1 Classification of the substance or mixture-Regulation (EC) No 1272/2008:

Not available

#### 2.2 Label Elements

**Signal Word:** Warning

Not available

#### Hazard Statement(s)

Code	Statement
H351	Not available

#### Precautionary Statement(s)

Code	Statement
P203	Not available
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P318	Not available

P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulation

### SECTION 3: Composition / information on ingredients

#### 3.1 Substance

Component : Drostanolone

CAS Number : 58-19-5

Molecular Formula : Not available

Molecular Weight : Not available

Parent Chemical : Not available

Synonyms : Not available

Concentration : Not available

### SECTION 4: First aid measures

#### SECTION 4: First-aid measures

##### 4.1 Description of first aid measures

General advice: Seek medical attention if symptoms occur or persist. Show this Safety Data Sheet to the physician.

Inhalation: Move person to fresh air. If breathing is difficult, seek medical attention.

Skin contact: Wash with soap and water. Remove contaminated clothing and wash before reuse. Seek medical attention if irritation develops.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.

Continue rinsing. Seek medical attention if irritation persists.

Ingestion: Rinse mouth. Do not induce vomiting unless directed by medical personnel. Seek medical attention.

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

Not available.

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

Treat symptomatically. No data available.

### SECTION 5: Firefighting measures

#### SECTION 5: Fire-fighting measures

##### 5.1 Extinguishing media

Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire (e.g., water spray, dry chemical, foam, carbon dioxide).

Unsuitable extinguishing media: Not available.

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

Hazardous combustion products: Not available.

Specific hazards: Dust may form combustible mixture with air (general precaution for organic powders). No data available.

##### 5.3 Advice for firefighters

Wear self-contained breathing apparatus (SCBA) and full protective gear. Use water spray to cool unopened containers exposed to heat. Avoid inhalation of combustion products.

### SECTION 6: Accidental release measures

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

Avoid breathing dust. Avoid contact with skin and eyes. Use appropriate personal protective equipment. Ensure adequate ventilation.

##### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Avoid release to the environment. No data available.

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

Avoid dust generation. Collect spilled material using methods that minimize dust (e.g., damp wipe, HEPA-filtered vacuum). Place in a suitable, labeled container for disposal. Clean contaminated area.

##### 6.4 Reference to other sections

See Section 8 for exposure controls/personal protection and Section 13 for disposal considerations.

### SECTION-7: Handling and storage

#### SECTION 7: Handling and storage

##### 7.1 Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Avoid formation of dust and aerosols. Avoid breathing dust. Avoid contact with skin, eyes, and clothing. Use with adequate ventilation.

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

Store in a tightly closed container in a cool, dry, well-ventilated place. Protect from moisture. Keep container tightly closed when not in use.

Incompatible materials: Not available.

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

API / laboratory or industrial use. Not for food, drug, or household use. No further information available.

### SECTION 8: Exposure controls / personal protection

#### SECTION 8: Exposure controls/personal protection

##### 8.1 Control parameters

Occupational exposure limits: Not available.

Biological limit values: Not available.

##### 8.2 Exposure controls

Engineering controls: Provide adequate ventilation. Use local exhaust where dust may be generated.

Personal protective equipment (PPE):

- Eye/face protection: Safety glasses with side shields or chemical goggles.
- Skin protection: Protective gloves. Protective clothing as appropriate.
- Respiratory protection: If ventilation is inadequate or dust is generated, use an appropriate particulate respirator.

- Hygiene measures: Wash hands after handling. Do not eat, drink, or smoke when using this product. Remove contaminated clothing and wash before reuse.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Test	Result
Appearance	No data available
IR spectrum	No data available
pH	No data available
Solubility	No data available

Property	Value
a) Physical State	No data available
b) Color	No data available
c) Odor	No data available
d) pH	No data available
e) Vapour Pressure	No data available
f) Viscosity	No data available
g) Initial Boiling Point and boiling range	No data available
h) Melting Point / Freezing Point	No data available
i) Auto Ignition Temperature	No data available
j) Flash Point	No data available
k) Explosion Limit, Lower	No data available
l) Explosion Limit, Upper	No data available
m) Decomposition Temperature	No data available
n) Loss on Drying	No data available
o) Relative Density	No data available
p) Solubility (in DMSO)	No data available
q) Oxidizing Properties	No data available

### SECTION 10: Stability and reactivity

#### SECTION 10: Stability and reactivity

##### 10.1 Reactivity

No data available.

##### 10.2 Chemical stability

Stable under recommended storage conditions.

##### 10.3 Possibility of hazardous reactions

No data available.

##### 10.4 Conditions to avoid

Avoid dust formation. Avoid excessive heat. Avoid moisture. No data available.

##### 10.5 Incompatible materials

Not available.

##### 10.6 Hazardous decomposition products

Not available.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

- Acute toxicity: IDENTIFICATION: Drostanolone is an anabolic steroid. Origin of the substance: Naturally occurring anabolic steroids are synthesized in the testis, ovary and adrenal gland from cholesterol via pregnenolone. Synthetic anabolic steroids are based on the principal male hormone testosterone, modified in one of three ways: alkylation of the 17-carbon; esterification of the 17-OH group; modification of the steroid nucleus. Indications: Anabolic agent for systemic use; veterinary anabolic steroid; veterinary estron derivative. Description: The only legitimate therapeutic indications for anabolic steroids are: Replacement of male sex steroids in men who have androgen deficiency, for example as a result of loss of both testes. The treatment of certain rare forms of aplastic anemia which are or may be responsive to anabolic androgens. The drugs have been used in certain countries to counteract catabolic states, for example after major trauma. HUMAN EXPOSURE: Main risks and target organs: There is no serious risk from acute poisoning, but chronic use can cause harm. The main risks are those of excessive androgens: menstrual irregularities and virilization in women and impotence, premature cardiovascular disease and prostatic hypertrophy in men. Both men and women can suffer liver damage with oral anabolic steroids containing a substituted 17-alpha-carbon. Psychiatric changes can occur during use or after cessation of these agents. Summary of clinical effects: Acute overdose can produce nausea and gastrointestinal upset. Chronic usage is thought to cause an increase in muscle bulk, and can cause an exaggeration of male characteristics and effects related to male hormones. Anabolic steroids can influence sexual function. They can also cause cardiovascular and hepatic damage. Acne and male-pattern baldness occur in both sexes; irregular menses, atrophy of the breasts, and clitoromegaly in women; and testicular atrophy and prostatic hypertrophy in men. Contraindications: Known or suspected cancer of the prostate or (in men) breast; pregnancy or breast-feeding; known cardiovascular disease is a relative contraindication. Routes of exposure: Oral: Anabolic steroids can be absorbed from the gastrointestinal tract, but many compounds undergo such extensive first-pass metabolism in the liver that they are inactive. Those compounds in which substitution of the 17-carbon protects the compound from the rapid hepatic metabolism are active orally. There are preparations of testosterone that can be taken sublingually. Parenteral: Intramuscular or deep subcutaneous injection is the principal route of administration of all the anabolic steroids except the 17-alpha-substituted steroids which are active orally. Absorption by route of exposure: The absorption after oral

dosing is rapid for testosterone and probably for other anabolic steroids, but there is extensive first-pass hepatic metabolism for all anabolic steroids except those that are substituted at the 17-alpha position. The rate of absorption from subcutaneous or intramuscular depots depends on the product and its formulation. Absorption is slow for the lipid-soluble esters such as the cypionate or enanthate, and for oily suspensions. Distribution by route of exposure: The anabolic steroids are highly protein bound, and is carried in plasma by a specific protein called sex-hormone binding globulin. Biological half-life by route of exposure: The metabolism of absorbed drug is rapid, and the elimination half-life from plasma is very short. The duration of the biological effects is therefore determined almost entirely by the rate of absorption from subcutaneous or intramuscular depots, and on the de-esterification which precedes it. Metabolism: Free (de-esterified) anabolic androgens are metabolized by hepatic mixed function oxidases. Elimination by route of exposure: After administration of radiolabelled testosterone, about 90% of the radioactivity appears in the urine, and 6% in the feces; there is some enterohepatic recirculation. Pharmacodynamics: Anabolic steroids bind to specific receptors present especially in reproductive tissue, muscle and fat. The anabolic steroids reduce nitrogen excretion from tissue breakdown in androgen deficient men. They are also responsible for normal male sexual differentiation. The ratio of anabolic ("body-building") effects to androgenic (virilizing) effects may differ among the members of the class, but in practice all agents possess both properties to some degree. There is no clear evidence that anabolic steroids enhance overall athletic performance. Carcinogenicity: Anabolic steroids may be carcinogenic. They can stimulate growth of sex-hormone dependent tissue, primarily the prostate gland in men. Precocious prostatic cancer has been described after long-term anabolic steroid abuse. Cases where hepatic cancers have been associated with anabolic steroid abuse have been reported. Teratogenicity: Androgen ingestion by a pregnant mother can cause virilization of a female fetus. Main adverse effects: The adverse effects of anabolic steroids include weight gain, fluid retention, and abnormal liver function as measured by biochemical tests. Administration to children can cause premature closure of the epiphyses. Men can develop impotence and azoospermia. Women are at risk of virilization. Chronic poisoning: Ingestion: Hepatic damage, manifest as derangement of biochemical tests of liver function and sometimes severe enough to cause jaundice; prostatic hypertrophy, impotence and azoospermia in men; acne, abnormal lipids, premature cardiovascular disease (including stroke and myocardial infarction), abnormal glucose tolerance, and muscular hypertrophy in both sexes; psychiatric disturbances can occur during or after prolonged treatment. Parenteral exposure: Virilization in women; prostatic hypertrophy, impotence and azoospermia in men; acne, abnormal lipids, premature cardiovascular disease (including stroke and myocardial infarction), abnormal glucose tolerance, and muscular hypertrophy in both sexes. Psychiatric disturbances can occur during or after prolonged treatment. Hepatic damage is not expected from parenteral preparations. Systematic description of clinical effects: Cardiovascular: Chronic ingestion of high doses of anabolic steroids can cause elevations in blood pressure, left ventricular hypertrophy and premature coronary artery disease. Neurological: Central nervous system: Stroke has been described in a young anabolic steroid abuser. Mania and psychotic symptoms of hallucination and delusion has been described in anabolic steroid abusers. They also described depression after withdrawal from anabolic steroids. There is also considerable debate about the effects of anabolic steroids on aggressive behavior and on criminal behavior. Mood swings were significantly more common in normal volunteers during the active phase of a trial comparing methyltestosterone with placebo. Gastrointestinal: Acute ingestion of large doses can cause nausea and gastrointestinal upset. Hepatic: Orally active (17-alpha substituted) anabolic steroids can cause abnormalities of hepatic function, manifest as abnormally elevated hepatic enzyme activity in biochemical tests of liver function, and sometimes as overt jaundice. The histological abnormality of peliosis hepatis has been associated with anabolic steroid use. Angiosarcoma and a case of hepatocellular carcinoma in an anabolic steroid user has been reported. Urinary: Other: Men who take large doses of anabolic steroids can develop prostatic hypertrophy. Prostatic carcinoma has been described in young men who have abused anabolic steroids. Endocrine and reproductive systems: Small doses of anabolic steroids are said to increase libido, but larger doses lead to azoospermia and impotence. Testicular atrophy is a common clinical feature of long-term abuse of anabolic steroids, and

gynecomastia can occur. Women develop signs of virilism, with increased facial hair, male pattern baldness, acne, deepening of the voice, irregular menses and clitoral enlargement. Dermatological: Acne occurs in both male and female anabolic steroids abusers. Women can develop signs of virilism, with increased facial hair and male pattern baldness. Eye, ear, nose, throat: local effects: Changes in the larynx in women caused by anabolic steroids can result in a hoarse, deep voice. The changes are irreversible. Hematological: Anabolic androgens stimulate erythropoiesis. Fluid and electrolyte disturbances: Sodium and water retention can occur, and result in edema; hypercalcemia is also reported. Others: Insulin resistance with a fall in glucose tolerance, and hypercholesterolemia with a fall in high density lipoprotein cholesterol, have been reported.

- Skin corrosion/irritation: No data available.
- Serious eye damage/eye irritation: No data available.
- Respiratory or skin sensitization: No data available.
- Germ cell mutagenicity: No data available.
- Carcinogenicity: IDENTIFICATION: Drostanolone is an anabolic steroid. Origin of the substance: Naturally occurring anabolic steroids are synthesized in the testis, ovary and adrenal gland from cholesterol via pregnenolone. Synthetic anabolic steroids are based on the principal male hormone testosterone, modified in one of three ways: alkylation of the 17-carbon; esterification of the 17-OH group; modification of the steroid nucleus. Indications: Anabolic agent for systemic use; veterinary anabolic steroid; veterinary estron derivative. Description: The only legitimate therapeutic indications for anabolic steroids are: Replacement of male sex steroids in men who have androgen deficiency, for example as a result of loss of both testes. The treatment of certain rare forms of aplastic anemia which are or may be responsive to anabolic androgens. The drugs have been used in certain countries to counteract catabolic states, for example after major trauma. HUMAN EXPOSURE: Main risks and target organs: There is no serious risk from acute poisoning, but chronic use can cause harm. The main risks are those of excessive androgens: menstrual irregularities and virilization in women and impotence, premature cardiovascular disease and prostatic hypertrophy in men. Both men and women can suffer liver damage with oral anabolic steroids containing a substituted 17-alpha-carbon. Psychiatric changes can occur during use or after cessation of these agents. Summary of clinical effects: Acute overdosage can produce nausea and gastrointestinal upset. Chronic usage is thought to cause an increase in muscle bulk, and can cause an exaggeration of male characteristics and effects related to male hormones. Anabolic steroids can influence sexual function. They can also cause cardiovascular and hepatic damage. Acne and male-pattern baldness occur in both sexes; irregular menses, atrophy of the breasts, and clitoromegaly in women; and testicular atrophy and prostatic hypertrophy in men. Contraindications: Known or suspected cancer of the prostate or (in men) breast; pregnancy or breast-feeding; known cardiovascular disease is a relative contraindication. Routes of exposure: Oral: Anabolic steroids can be absorbed from the gastrointestinal tract, but many compounds undergo such extensive first-pass metabolism in the liver that they are inactive. Those compounds in which substitution of the 17-carbon protects the compound from the rapid hepatic metabolism are active orally. There are preparations of testosterone that can be taken sublingually. Parenteral: Intramuscular or deep subcutaneous injection is the principal route of administration of all the anabolic steroids except the 17-alpha-substituted steroids which are active orally. Absorption by route of exposure: The absorption after oral dosing is rapid for testosterone and probably for other anabolic steroids, but there is extensive first-pass hepatic metabolism for all anabolic steroids except those that are substituted at the 17-alpha position. The rate of absorption from subcutaneous or intramuscular depots depends on the product and its formulation. Absorption is slow for the lipid-soluble esters such as the cypionate or enanthate, and for oily suspensions. Distribution by route of exposure: The anabolic steroids are highly protein bound, and is carried in plasma by a specific protein called sex-hormone binding globulin. Biological half-life by route of exposure: The metabolism of absorbed drug is rapid, and the elimination half-life from plasma is very short. The duration of the biological effects is therefore determined almost entirely by the rate of absorption from subcutaneous or intramuscular depots, and on the de-esterification which precedes it. Metabolism: Free (de-esterified) anabolic androgens are metabolized by

hepatic mixed function oxidases. Elimination by route of exposure: After administration of radiolabelled testosterone, about 90% of the radioactivity appears in the urine, and 6% in the feces; there is some enterohepatic recirculation

Pharmacodynamics: Anabolic steroids bind to specific receptors present especially in reproductive tissue, muscle and fat. The anabolic steroids reduce nitrogen excretion from tissue breakdown in androgen deficient men. They are also responsible for normal male sexual differentiation. The ratio of anabolic ("body-building") effects to androgenic (virilizing) effects may differ among the members of the class, but in practice all agents possess both properties to some degree. There is no clear evidence that anabolic steroids enhance overall athletic performance.

Carcinogenicity: Anabolic steroids may be carcinogenic. They can stimulate growth of sex-hormone dependent tissue, primarily the prostate gland in men. Precocious prostatic cancer has been described after long-term anabolic steroid abuse. Cases where hepatic cancers have been associated with anabolic steroid abuse have been reported.

Teratogenicity: Androgen ingestion by a pregnant mother can cause virilization of a female fetus. Main adverse effects: The adverse effects of anabolic steroids include weight gain, fluid retention, and abnormal liver function as measured by biochemical tests. Administration to children can cause premature closure of the epiphyses. Men can develop impotence and azoospermia. Women are at risk of virilization. Chronic poisoning: Ingestion: Hepatic damage, manifest as derangement of biochemical tests of liver function and sometimes severe enough to cause jaundice; prostatic hypertrophy, impotence and azoospermia in men; acne, abnormal lipids, premature cardiovascular disease (including stroke and myocardial infarction), abnormal glucose tolerance, and muscular hypertrophy in both sexes; psychiatric disturbances can occur during or after prolonged treatment. Parenteral exposure: Virilization in women; prostatic hypertrophy, impotence and azoospermia in men; acne, abnormal lipids, premature cardiovascular disease (including stroke and myocardial infarction), abnormal glucose tolerance, and muscular hypertrophy in both sexes. Psychiatric disturbances can occur during or after prolonged treatment. Hepatic damage is not expected from parenteral preparations. Systematic description of clinical effects: Cardiovascular: Chronic ingestion of high doses of anabolic steroids can cause elevations in blood pressure, left ventricular hypertrophy and premature coronary artery disease. Neurological: Central nervous system: Stroke has been described in a young anabolic steroid abuser. Mania and psychotic symptoms of hallucination and delusion has been described in anabolic steroid abusers. They also described depression after withdrawal from anabolic steroids. There is also considerable debate about the effects of anabolic steroids on aggressive behavior and on criminal behavior. Mood swings were significantly more common in normal volunteers during the active phase of a trial comparing methyltestosterone with placebo. Gastrointestinal: Acute ingestion of large doses can cause nausea and gastrointestinal upset. Hepatic: Orally active (17-alpha substituted) anabolic steroids can cause abnormalities of hepatic function, manifest as abnormally elevated hepatic enzyme activity in biochemical tests of liver function, and sometimes as overt jaundice. The histological abnormality of peliosis hepatis has been associated with anabolic steroid use. Angiosarcoma and a case of hepatocellular carcinoma in an anabolic steroid user has been reported. Urinary: Other: Men who take large doses of anabolic steroids can develop prostatic hypertrophy. Prostatic carcinoma has been described in young men who have abused anabolic steroids. Endocrine and reproductive systems: Small doses of anabolic steroids are said to increase libido, but larger doses lead to azoospermia and impotence. Testicular atrophy is a common clinical feature of long-term abuse of anabolic steroids, and gynecomastia can occur. Women develop signs of virilism, with increased facial hair, male pattern baldness, acne, deepening of the voice, irregular menses and clitoral enlargement. Dermatological: Acne occurs in both male and female anabolic steroids abusers. Women can develop signs of virilism, with increased facial hair and male pattern baldness. Eye, ear, nose, throat: local effects: Changes in the larynx in women caused by anabolic steroids can result in a hoarse, deep voice. The changes are irreversible. Hematological: Anabolic androgens stimulate erythropoiesis. Fluid and electrolyte disturbances: Sodium and water retention can occur, and result in edema; hypercalcemia is also reported. Others: Insulin resistance with a fall in glucose tolerance, and hypercholesterolemia with a fall in high density lipoprotein cholesterol, have been reported.

- Reproductive toxicity: IDENTIFICATION: Drostanolone is an anabolic steroid. Origin of the substance: Naturally occurring anabolic steroids are synthesized in the testis, ovary and adrenal gland from cholesterol via pregnenolone. Synthetic anabolic steroids are based on the principal male hormone testosterone, modified in one of three ways: alkylation of the 17-carbon; esterification of the 17-OH group; modification of the steroid nucleus. Indications: Anabolic agent for systemic use; veterinary anabolic steroid; veterinary estron derivative. Description: The only legitimate therapeutic indications for anabolic steroids are: Replacement of male sex steroids in men who have androgen deficiency, for example as a result of loss of both testes. The treatment of certain rare forms of aplastic anemia which are or may be responsive to anabolic androgens. The drugs have been used in certain countries to counteract catabolic states, for example after major trauma. 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Main adverse effects: The adverse effects of anabolic steroids include weight gain, fluid retention, and abnormal liver function as measured by biochemical tests. Administration to children can cause premature closure of the epiphyses. Men can develop impotence and azoospermia. Women are at risk of virilization. Chronic poisoning: Ingestion: Hepatic damage, manifest as derangement of biochemical tests of liver function and sometimes severe enough to cause jaundice; prostatic hypertrophy, impotence and azoospermia in men; acne, abnormal lipids, premature cardiovascular disease (including stroke and myocardial infarction), abnormal glucose tolerance, and muscular hypertrophy in both sexes; psychiatric disturbances can occur during or after prolonged treatment. Parenteral exposure: Virilization in women; prostatic hypertrophy, impotence and azoospermia in men; acne, abnormal lipids, premature cardiovascular disease (including stroke and myocardial infarction), abnormal glucose tolerance, and muscular hypertrophy in both sexes. Psychiatric disturbances can occur during or after prolonged treatment. Hepatic damage is not expected from parenteral preparations. Systematic description of clinical effects: Cardiovascular: Chronic ingestion of high doses of anabolic steroids can cause elevations in blood pressure, left ventricular hypertrophy and premature coronary artery disease. Neurological: Central nervous system: Stroke has been described in a young anabolic steroid abuser. Mania and psychotic symptoms of hallucination and delusion has

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- STOT-repeated exposure: IDENTIFICATION: Drostanolone is an anabolic steroid. Origin of the substance: Naturally occurring anabolic steroids are synthesized in the testis, ovary and adrenal gland from cholesterol via pregnenolone. Synthetic anabolic steroids are based on the principal male hormone testosterone, modified in one of three ways: alkylation of the 17-carbon; esterification of the 17-OH group; modification of the steroid nucleus. Indications: Anabolic agent for systemic use; veterinary anabolic steroid; veterinary estron derivative. Description: The only legitimate therapeutic indications for anabolic steroids are: Replacement of male sex steroids in men who have androgen deficiency, for example as a result of loss of both testes. The treatment of certain rare forms of aplastic anemia which are or may be responsive to anabolic androgens. The drugs have been used in certain countries to counteract catabolic states, for example after major trauma. HUMAN EXPOSURE: Main risks and target organs: There is no serious risk from acute poisoning, but chronic use can cause harm. The main risks are those of excessive androgens: menstrual irregularities and virilization in women and impotence, premature cardiovascular disease and prostatic hypertrophy in men. Both men and women can suffer liver damage with oral anabolic steroids containing a substituted 17-alpha-carbon. Psychiatric changes can occur during use or after cessation of these agents. Summary of clinical effects: Acute overdose can produce nausea and gastrointestinal upset. Chronic usage is thought to cause an increase in muscle bulk, and can cause an exaggeration of male characteristics and effects related to male hormones. Anabolic steroids can influence sexual function. They can also cause cardiovascular and hepatic damage. Acne and male-pattern baldness occur in both sexes; irregular menses, atrophy of the breasts, and clitoromegaly in women; and testicular atrophy and prostatic hypertrophy in men. Contraindications: Known or suspected cancer of the prostate or (in men) breast; pregnancy or breast-feeding; known cardiovascular disease is a relative contraindication. Routes of exposure: Oral: Anabolic steroids can be absorbed from the gastrointestinal tract, but many compounds undergo such extensive first-pass metabolism in the liver that they are inactive. Those compounds in which substitution of the 17-carbon protects the compound from the rapid hepatic metabolism are active orally. There are preparations of testosterone that can be taken sublingually. Parenteral: Intramuscular or deep subcutaneous injection is the principal route of administration of all the anabolic steroids except the 17-alpha-substituted steroids which are active orally. Absorption by route of exposure: The absorption after oral dosing is rapid for testosterone and probably for other anabolic steroids, but there is extensive

first-pass hepatic metabolism for all anabolic steroids except those that are substituted at the 17-alpha position. The rate of absorption from subcutaneous or intramuscular depots depends on the product and its formulation. Absorption is slow for the lipid-soluble esters such as the cypionate or enanthate, and for oily suspensions. Distribution by route of exposure: The anabolic steroids are highly protein bound, and is carried in plasma by a specific protein called sex-hormone binding globulin. Biological half-life by route of exposure: The metabolism of absorbed drug is rapid, and the elimination half-life from plasma is very short. The duration of the biological effects is therefore determined almost entirely by the rate of absorption from subcutaneous or intramuscular depots, and on the de-esterification which precedes it. Metabolism: Free (de-esterified) anabolic androgens are metabolized by hepatic mixed function oxidases. 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- Aspiration hazard: No data available.

Likely routes of exposure

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**Carcinogenicity:** Anabolic steroids may be carcinogenic. They can stimulate growth of sex-hormone dependent tissue, primarily the prostate gland in men. Precocious prostatic cancer has been described after long-term anabolic steroid abuse. Cases where hepatic cancers have been associated with anabolic steroid abuse have been reported.

**Teratogenicity:** Androgen ingestion by a pregnant mother can cause virilization of a female fetus. Main adverse effects:

The adverse effects of anabolic steroids include weight gain, fluid retention, and abnormal liver function as measured by biochemical tests. Administration to children can cause premature closure of the epiphyses. Men can develop impotence and azoospermia. Women are at risk of virilization. Chronic poisoning: Ingestion: Hepatic damage, manifest as derangement of biochemical tests of liver function and sometimes severe enough to cause jaundice; prostatic hypertrophy, impotence and azoospermia in men; acne, abnormal lipids, premature cardiovascular disease (including stroke and myocardial infarction), abnormal glucose tolerance, and muscular hypertrophy in both sexes; psychiatric disturbances can occur during or after prolonged treatment. Parenteral exposure: Virilization in women; prostatic hypertrophy, impotence and azoospermia in men; acne, abnormal lipids, premature cardiovascular disease (including stroke and myocardial infarction), abnormal glucose tolerance, and muscular hypertrophy in both sexes. Psychiatric disturbances can occur during or after prolonged treatment. Hepatic damage is not expected from parenteral preparations. Systematic description of clinical effects: Cardiovascular: Chronic ingestion of high doses of anabolic steroids can cause elevations in blood pressure, left ventricular hypertrophy and premature coronary artery disease. Neurological: Central nervous system: Stroke has been described in a young anabolic steroid abuser. Mania and psychotic symptoms of hallucination and delusion has been described in anabolic steroid abusers. They also described depression after withdrawal from anabolic steroids. There is also considerable debate about the effects of anabolic steroids on aggressive behavior and on criminal behavior. Mood swings were significantly more common in normal volunteers during the active phase of a trial comparing methyltestosterone with placebo. Gastrointestinal: Acute ingestion of large doses can cause nausea and gastrointestinal upset. Hepatic: Orally active (17-alpha substituted) anabolic steroids can cause abnormalities of hepatic function, manifest as abnormally elevated hepatic enzyme activity in biochemical tests of liver function, and sometimes as overt jaundice. The histological abnormality of peliosis hepatis has been associated with anabolic steroid use. Angiosarcoma and a case of hepatocellular carcinoma in an anabolic steroid user has been reported. Urinary: Other: Men who take large doses of anabolic steroids can develop prostatic hypertrophy. Prostatic carcinoma has been described in young men who have abused anabolic steroids. Endocrine and reproductive systems: Small doses of anabolic steroids are said to increase libido, but larger doses lead to azoospermia and impotence. Testicular atrophy is a common clinical feature of long-term abuse of anabolic steroids, and gynecomastia can occur. Women develop signs of virilism, with increased facial hair, male pattern baldness, acne, deepening of the voice, irregular menses and clitoral enlargement. Dermatological: Acne occurs in both male and female anabolic steroids abusers. Women can develop signs of virilism, with increased facial hair and male pattern baldness. Eye, ear, nose, throat: local effects: Changes in the larynx in women caused by anabolic steroids can result in a hoarse, deep voice. The changes are irreversible. Hematological: Anabolic androgens stimulate erythropoiesis. Fluid and electrolyte disturbances: Sodium and water retention can occur, and result in edema; hypercalcemia is also reported. Others: Insulin resistance with a fall in glucose tolerance, and hypercholesterolemia with a fall in high density lipoprotein cholesterol, have been reported.

Symptoms related to the physical, chemical and toxicological characteristics

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## SECTION 12: Ecological information

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#### 12.1 Toxicity

No data available.

#### 12.2 Persistence and degradability

No data available.

#### 12.3 Bioaccumulative potential

No data available.

#### 12.4 Mobility in soil

No data available.

#### 12.5 Results of PBT and vPvB assessment

Not available.

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No data available.

### SECTION 13: Disposal considerations

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

Do not discharge to drains or the environment.

Waste classification: Not available.

### SECTION 14: Transport information

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14.1 UN number

Not available.

14.2 UN proper shipping name

Not available.

14.3 Transport hazard class(es)

Not available.

14.4 Packing group

Not available.

14.5 Environmental hazards

Not available.

14.6 Special precautions for user

Not available.

14.7 Transport in bulk according to IMO instruments

Not available.

### SECTION 15: Regulatory information

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15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Not available.

15.2 Chemical safety assessment

No data available.

### SECTION 16: Other information

### SECTION 16: Other information

Product name: Drostanolone

Catalog No.: CS-T-57132

CAS No.: 58-19-5

Supplier: Clearsynth Labs Ltd., Mumbai, India

Emergency phone: +91-22-245045900

Revision date: Not available

SDS version: Not available

Disclaimer: The information provided is believed to be accurate based on available data, but no warranty is expressed or implied. Users must determine suitability for their particular purpose and comply with applicable laws and regulations.

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