Chemwatch

TRENBOLONE ACETATE

Not Available Not Available

Chemwatch Hazard Alert Code: 3

Chemwatch: **4162-47**
Version No: **2.1.1.1**
Material Safety Data Sheet according to NOHSC and ADG requirements

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SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	TRENBOLONE ACETATE
Chemical Name	TRENBOLONE ACETATE
Synonyms	(17beta)-17-acetyloxyestr-4,9,11-trien-3-one, 17beta-acetoxy-3-oxoestra-4,9,11-triene, 17beta-acetoxyestra-4,9,11-trien-3-one, 17beta-hydroxy-19-norandrosta-4,9,11-trien-3-one acetate, 17beta-hydroxyestra-4,9,11-trien-3-one acetate, 17beta-trenbolone acetate, 19-norandrost-4,9,11-trien-17beta-ol-3-one acetate, 4,9,11-estratrien-17beta-ol-3-one acetate, C20-H24-O3, Finaplix, Parabolan, Revalor-H, TRENBOLONE ACETATE, anabolic/ androgen, trienbolone acetate, trienolone acetate
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains trenbolone acetate)
Chemical formula	C20-H24-O3
Other means of identification	Not Available
CAS number	10161-34-9

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Trenbolone is a anabolic steroid used by veterinarians on livestock to increase muscle growth and appetite. Bodybuilders and athletes have been known to use the drug illicitly in order to increase body mass. Trenbolone compounds have a binding affinity for the androgen receptor three times as high as that of testosterone. Once metabolised, the drugs have the effect of increasing nitrogen uptake by muscles, leading to an increase in the rate of protein synthesis. It also has the secondary effects of stimulating appetite, reducing the amount of fat being deposited in the body, and decreasing the rate of catabolism. Trenbolone has proven popular with anabolic steroid users as it is not metabolised by aromatase or 5alpha-reductase into oestrogenic compounds such as oestradiol, or into DHT. This means that it also does not cause any water retention normally associated with highly androgenic steroidal compounds like testosterone or methandrostenolone. It is also to increase body strength.

Details of the manufacturer/importer

Registered company name	Not Available
Address	Not Available
Telephone	Not Available
Fax	Not Available
Website	Not Available
Email	Not Available

Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	Not Available
Other emergency telephone numbers	Not Available

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

Continued...

CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	1	
Toxicity	2	
Body Contact	0	
Reactivity	1	
Chronic	3	

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

Label elements

Relevant risk statements are found in section 2

Poisons Schedule	S4	
Risk Phrases [1]	R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
	R63(3)	Possible risk of harm to the unborn child.
	R60(2)	May impair fertility.
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI*	
Indication(s) of danger	T, Xn, N	

SAFETY ADVICE

S01	Keep locked up.
S13	Keep away from food, drink and animal feeding stuffs.
S20	When using do not eat or drink.
S28	After contact with skin, wash immediately with plenty of water
S29	Do not empty into drains.
S35	This material and its container must be disposed of in a safe way.
S36	Wear suitable protective clothing.
S37	Wear suitable gloves.
S38	In case of insufficient ventilation, wear suitable respiratory equipment.
S40	To clean the floor and all objects contaminated by this material, use water and detergent.
S45	In case of accident or if you feel unwell IMMEDIATELY contact Doctor or Poisons Information Centre (show label if possible).
S46	If swallowed, seek medical advice immediately and show this container or label.
S53	Avoid exposure - obtain special instructions before use.
S56	Dispose of this material and its container at hazardous or special waste collection point.
S57	Use appropriate container to avoid environmental contamination.
S61	Avoid release to the environment. Refer to special instructions/Safety data sheets.

Other hazards

	Limited evidence of a carcinogenic effect*.
	Ingestion may produce health damage*.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

CAS No	%[weight]	Name
10161-34-9	>98	trenbolone acetate

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Mixtures

See section above for composition of Substances

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: • Wash out immediately with fresh running water. • Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. • Seek medical attention without delay; if pain persists or recurs seek medical attention. • Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin or hair contact occurs: • Flush skin and hair with running water (and soap if available). • Seek medical attention in event of irritation.
Inhalation	• If fumes, aerosols or combustion products are inhaled remove from contaminated area. • Other measures are usually unnecessary.
Ingestion	• If swallowed do **NOT** induce vomiting. • If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. • Observe the patient carefully. • Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. • Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. • Seek medical advice.

Indication of any immediate medical attention and special treatment needed

TREATMENT for androgen-anabolic steroid intoxication:

- For acute massive ingestions of androgenic-anabolic steroids, decontamination of the gastrointestinal tract with oral administration of activated charcoal may reduce absorption if employed within 1 or 2 hours of ingestion.
- Activated charcoal is used empirically as a general adsorbent, because there is no evidence to support or refute its efficacy.
- Because there appears to be minimal risk from ingesting pharmacological doses of androgen-anabolic steroids, gastrointestinal decontamination should not be indicated in these cases.
- For intramuscular injections of androgenic-anabolic steroids, cleansing and examination of the injection site would be advisable.
- Complications associated with androgenic-anabolic steroid use may require symptomatic treatment, such as lorazepam, diazepam, or haloperidol for excessively aggressive and combative patients.
- There are no specific antagonists for acute or chronic exposure to androgen-anabolic steroids. Discontinuance of further use should be emphasised.
- Management of a withdrawal syndrome associated with these steroids have been described but the risks and benefits of such an approach have not been reported.

CLINICAL TOXICOLOGY: Ford, Delaney, Ling and Erickson: 2001 Publisher: W.B. Saunders Company

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

	• Foam. • Dry chemical powder. • BCF (where regulations permit). • Carbon dioxide. • Water spray or fog - Large fires only.

Special hazards arising from the substrate or mixture

Fire Incompatibility	• Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Advice for firefighters

Fire Fighting	• Alert Fire Brigade and tell them location and nature of hazard. • Wear breathing apparatus plus protective gloves. • Prevent, by any means available, spillage from entering drains or water courses. • Use water delivered as a fine spray to control fire and cool adjacent area. • DO NOT approach containers suspected to be hot. • Cool fire exposed containers with water spray from a protected location. • If safe to do so, remove containers from path of fire. • Equipment should be thoroughly decontaminated after use.

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Fire/Explosion Hazard	▸ Combustible solid which burns but propagates flame with difficulty; it is estimated that most organic dusts are combustible (circa 70%) - according to the circumstances under which the combustion process occurs, such materials may cause fires and / or dust explosions. ▸ Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions). ▸ Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited - particles exceeding this limit will generally not form flammable dust clouds; once initiated, however, larger particles up to 1400 microns diameter will contribute to the propagation of an explosion. ▸ In the same way as gases and vapours, dusts in the form of a cloud are only ignitable over a range of concentrations; in principle, the concepts of lower explosive limit (LEL) and upper explosive limit (UEL) are applicable to dust clouds but only the LEL is of practical use; - this is because of the inherent difficulty of achieving homogeneous dust clouds at high temperatures (for dusts the LEL is often called the "Minimum Explosible Concentration", MEC). ▸ When processed with flammable liquids/vapors/mists,ignitable (hybrid) mixtures may be formed with combustible dusts. Ignitable mixtures will increase the rate of explosion pressure rise and the Minimum Ignition Energy (the minimum amount of energy required to ignite dust clouds - MIE) will be lower than the pure dust in air mixture. The Lower Explosive Limit (LEL) of the vapour/dust mixture will be lower than the individual LELs for the vapors/mists or dusts. ▸ A dust explosion may release of large quantities of gaseous products; this in turn creates a subsequent pressure rise of explosive force capable of damaging plant and buildings and injuring people. ▸ Usually the initial or primary explosion takes place in a confined space such as plant or machinery, and can be of sufficient force to damage or rupture the plant. If the shock wave from the primary explosion enters the surrounding area, it will disturb any settled dust layers, forming a second dust cloud, and often initiate a much larger secondary explosion. All large scale explosions have resulted from chain reactions of this type. ▸ Dry dust can be charged electrostatically by turbulence, pneumatic transport, pouring, in exhaust ducts and during transport. ▸ Build-up of electrostatic charge may be prevented by bonding and grounding. ▸ Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting. ▸ All movable parts coming in contact with this material should have a speed of less than 1-meter/sec. ▸ A sudden release of statically charged materials from storage or process equipment, particularly at elevated temperatures and/ or pressure, may result in ignition especially in the absence of an apparent ignition source. ▸ One important effect of the particulate nature of powders is that the surface area and surface structure (and often moisture content) can vary widely from sample to sample, depending of how the powder was manufactured and handled; this means that it is virtually impossible to use flammability data published in the literature for dusts (in contrast to that published for gases and vapours). ▸ Autoignition temperatures are often quoted for dust clouds (minimum ignition temperature (MIT)) and dust layers (layer ignition temperature (LIT)); LIT generally falls as the thickness of the layer increases. Combustion products include:, carbon monoxide (CO), carbon dioxide (CO_2), other pyrolysis products typical of burning organic material

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills	Environmental hazard - contain spillage. ▸ Clean up waste regularly and abnormal spills immediately. ▸ Avoid breathing dust and contact with skin and eyes. ▸ Wear protective clothing, gloves, safety glasses and dust respirator. ▸ Use dry clean up procedures and avoid generating dust. ▸ Vacuum up or sweep up. **NOTE:** Vacuum cleaner must be fitted with an exhaust micro filter (HEPA type) (consider explosion-proof machines designed to be grounded during storage and use). ▸ Dampen with water to prevent dusting before sweeping. ▸ Place in suitable containers for disposal.
Major Spills	Environmental hazard - contain spillage. Moderate hazard. ▸ **CAUTION:** Advise personnel in area. ▸ Alert Emergency Services and tell them location and nature of hazard. ▸ Control personal contact by wearing protective clothing. ▸ Prevent, by any means available, spillage from entering drains or water courses. ▸ Recover product wherever possible. ▸ **IF DRY:** Use dry clean up procedures and avoid generating dust. Collect residues and place in sealed plastic bags or other containers for disposal. **IF WET:** Vacuum/shovel up and place in labelled containers for disposal. ▸ **ALWAYS:** Wash area down with large amounts of water and prevent runoff into drains. ▸ If contamination of drains or waterways occurs, advise Emergency Services.
	Personal Protective Equipment advice is contained in Section 8 of the MSDS.

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SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	‣ Avoid all personal contact, including inhalation. ‣ Wear protective clothing when risk of exposure occurs. ‣ Use in a well-ventilated area. ‣ Prevent concentration in hollows and sumps. ‣ DO NOT enter confined spaces until atmosphere has been checked. ‣ DO NOT allow material to contact humans, exposed food or food utensils. ‣ Avoid contact with incompatible materials. ‣ When handling, DO NOT eat, drink or smoke. ‣ Keep containers securely sealed when not in use. ‣ Avoid physical damage to containers. ‣ Always wash hands with soap and water after handling. ‣ Work clothes should be laundered separately. Launder contaminated clothing before re-use. ‣ Use good occupational work practice. ‣ Observe manufacturer's storage and handling recommendations contained within this MSDS. ‣ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. ‣ Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions) ‣ Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame. ‣ Establish good housekeeping practices. ‣ Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds. ‣ Use continuous suction at points of dust generation to capture and minimise the accumulation of dusts. Particular attention should be given to overhead and hidden horizontal surfaces to minimise the probability of a "secondary" explosion. According to NFPA Standard 654, dust layers 1/32 in.(0.8 mm) thick can be sufficient to warrant immediate cleaning of the area. ‣ Do not use air hoses for cleaning. ‣ Minimise dry sweeping to avoid generation of dust clouds. Vacuum dust-accumulating surfaces and remove to a chemical disposal area. Vacuums with explosion-proof motors should be used. ‣ Control sources of static electricity. Dusts or their packages may accumulate static charges, and static discharge can be a source of ignition. ‣ Solids handling systems must be designed in accordance with applicable standards (e.g. NFPA including 654 and 77) and other national guidance. ‣ Do not empty directly into flammable solvents or in the presence of flammable vapors. ‣ The operator, the packaging container and all equipment must be grounded with electrical bonding and grounding systems. Plastic bags and plastics cannot be grounded, and antistatic bags do not completely protect against development of static charges. Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source. ‣ Do NOT cut, drill, grind or weld such containers. ‣ In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.
Other information	‣ Store in original containers. ‣ Keep containers securely sealed. ‣ Store in a cool, dry area protected from environmental extremes. ‣ Store away from incompatible materials and foodstuff containers. ‣ Protect containers against physical damage and check regularly for leaks. ‣ Observe manufacturer's storage and handling recommendations contained within this MSDS. For major quantities: ‣ Consider storage in bunded areas - ensure storage areas are isolated from sources of community water (including stormwater, ground water, lakes and streams). ‣ Ensure that accidental discharge to air or water is the subject of a contingency disaster management plan; this may require consultation with local authorities.

Conditions for safe storage, including any incompatibilities

Suitable container	‣ Glass container is suitable for laboratory quantities ‣ Polyethylene or polypropylene container. ‣ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	‣ Avoid reaction with oxidising agents

PACKAGE MATERIAL INCOMPATIBILITIES

Not Available

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SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Not Available

EMERGENCY LIMITS

Ingredient	TEEL-0	TEEL-1	TEEL-2	TEEL-3
TRENBOLONE ACETATE	Not Available	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
trenbolone acetate	Not Available	Not Available

MATERIAL DATA

It is the goal of the ACGIH (and other Agencies) to recommend TLVs (or their equivalent) for all substances for which there is evidence of health effects at airborne concentrations encountered in the workplace.
At this time no TLV has been established, even though this material may produce adverse health effects (as evidenced in animal experiments or clinical experience). Airborne concentrations must be maintained as low as is practically possible and occupational exposure must be kept to a minimum.
NOTE: The ACGIH occupational exposure standard for Particles Not Otherwise Specified (P.N.O.S) does NOT apply.
for androgenic anabolic steroid
IARC Group 2A - probable human carcinogen
Cases of benign hepatoma, peliosis hepatitis, primary hepatocellular carcinoma and hepatic cholangiocarcinoma have been associated with the use of steroidal androgens, notably oxymetholone.
Airborne particulate or vapour must be kept to levels as low as is practicably achievable given access to modern engineering controls and monitoring hardware. Biologically active compounds may produce idiosyncratic effects which are entirely unpredictable on the basis of literature searches and prior clinical experience (both recent and past).

Exposure controls

Appropriate engineering controls

Enclosed local exhaust ventilation is required at points of dust, fume or vapour generation.

HEPA terminated local exhaust ventilation should be considered at point of generation of dust, fumes or vapours.

Barrier protection or laminar flow cabinets should be considered for laboratory scale handling.

A fume hood or vented balance enclosure is recommended for weighing/ transferring quantities exceeding 500 mg.

When handling quantities up to 500 gram in either a standard laboratory with general dilution ventilation (e.g. 6-12 air changes per hour) is preferred. Quantities up to 1 kilogram may require a designated laboratory using fume hood, biological safety cabinet, or approved vented enclosures. Quantities exceeding 1 kilogram should be handled in a designated laboratory or containment laboratory using appropriate barrier/ containment technology.

Manufacturing and pilot plant operations require barrier/ containment and direct coupling technologies.

Barrier/ containment technology and direct coupling (totally enclosed processes that create a barrier between the equipment and the room) typically use double or split butterfly valves and hybrid unidirectional airflow/ local exhaust ventilation solutions (e.g. powder containment booths). Glove bags, isolator glove box systems are optional. HEPA filtration of exhaust from dry product handling areas is required.

Fume-hoods and other open-face containment devices are acceptable when face velocities of at least 1 m/s (200 feet/minute) are achieved. Partitions, barriers, and other partial containment technologies are required to prevent migration of the material to uncontrolled areas. For non-routine emergencies maximum local and general exhaust are necessary. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:	Air Speed:
solvent, vapours, etc. evaporating from tank (in still air)	0.25-0.5 m/s (50-100 f/min.)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)
direct spray, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)

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Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2.5 m/s (200-500 f/min.) for extraction of gases discharged 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

The need for respiratory protection should also be assessed where incidental or accidental exposure is anticipated: Dependent on levels of contamination, PAPR, full face air purifying devices with P2 or P3 filters or air supplied respirators should be evaluated.

The following protective devices are recommended where exposures exceed the recommended exposure control guidelines by factors of:

10; high efficiency particulate (HEPA) filters or cartridges

10-25; loose-fitting (Tyvek or helmet type) HEPA powered-air purifying respirator.

25-50; a full face-piece negative pressure respirator with HEPA filters

50-100; tight-fitting, full face-piece HEPA PAPR

100-1000; a hood-shroud HEPA PAPR or full face-piece supplied air respirator operated in pressure demand or other positive pressure mode.

Personal protection

Eye and face protection

When handling very small quantities of the material eye protection may not be required.
For laboratory, larger scale or bulk handling or where regular exposure in an occupational setting occurs:

- Chemical goggles.
- Face shield. Full face shield may be required for supplementary but never for primary protection of eyes.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

Skin protection

See Hand protection below

Hands/feet protection

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and.has to be observed when making a final choice.
Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.
- Contaminated gloves should be replaced.

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	Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended. • Rubber gloves (nitrile or low-protein, powder-free latex, latex/ nitrile). Employees allergic to latex gloves should use nitrile gloves in preference. • Double gloving should be considered. • PVC gloves. • Change gloves frequently and when contaminated, punctured or torn. • Wash hands immediately after removing gloves. • Protective shoe covers. [AS/NZS 2210] • Head covering. Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present. • polychloroprene. • nitrile rubber. • butyl rubber. • fluorocaoutchouc. • polyvinyl chloride. Gloves should be examined for wear and/ or degradation constantly.
Body protection	See Other protection below
Other protection	• For quantities up to 500 grams a laboratory coat may be suitable. • For quantities up to 1 kilogram a disposable laboratory coat or coverall of low permeability is recommended. Coveralls should be buttoned at collar and cuffs. • For quantities over 1 kilogram and manufacturing operations, wear disposable coverall of low permeability and disposable shoe covers. • For manufacturing operations, air-supplied full body suits may be required for the provision of advanced respiratory protection. • **Eye wash unit.** • Ensure there is ready access to an emergency shower. • For Emergencies: Vinyl suit
Thermal hazards	Not Available

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:
"Forsberg Clothing Performance Index".
The effect(s) of the following substance(s) are taken into account in the ***computer-generated*** selection:
TRENBOLONE ACETATE Not Available

Material	CPI

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Respiratory protection

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	P1 Air-line*	- -	PAPR-P1 -
up to 50 x ES	Air-line**	P2	PAPR-P2
up to 100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	White crystalline powder; does not mix well with water.

Physical state	Divided Solid	**Relative density (Water = 1)**	Not Available
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Applicable	**Decomposition temperature**	Not Available

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Melting point / freezing point (°C)	96	**Viscosity (cSt)**	Not Applicable
Initial boiling point and boiling range (°C)	Not Available	**Molecular weight (g/mol)**	312.40
Flash point (°C)	Not Available	**Taste**	Not Available
Evaporation rate	Not Applicable	**Explosive properties**	Not Available
Flammability	Not Available	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Applicable
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	Negligible
Vapour pressure (kPa)	Negligible	**Gas group**	Not Available
Solubility in water (g/L)	Partly Miscible	**pH as a solution(1%)**	Not Applicable
Vapour density (Air = 1)	Not Applicable	**VOC g/L**	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	▸ Unstable in the presence of incompatible materials. ▸ Product is considered stable. ▸ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled. If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual. Side-effects associated with both natural and synthetic androgens include increases in nitrogen retention and skeletal weight, sodium, caicium, potassium, inorganic phosphates, and water retention, oedema, increased vascularisation of the skin, hypercalcaemia, and increased bone growth. Large and repeated doses in early puberty may cause closure of the epiphyses and stop linear growth. Jaundice, cholestatic hepatitis and abnormal liver-function tests may occur. Liver effects occur mainly with 17alpha alkylated derivatives. Other effects may include hypersensitivity characterised by skin manifestations and anaphylactoid reactions. In men, large doses suppress spermatogenesis and cause degenerative changes in seminiferous tubules. Excessive stimulation may be evidence of excessive doses especially in elder men. In women androgens inhibit the activity of the anterior pituitary which results in the suppression of ovarian activity and menstruation. Continued administration of large doses may produce symptoms of virilism including male-pattern hirsutism, deepening of the voice, atrophy of the breasts and endometrial tissue, acne, seborrhea, and hypertrophy of the clitoris. Libido may be increased and lactation suppressed. The anabolic steroids produce the adverse effects exhibited by androgens but generally produce lessened virilising effects, especially in women.
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury

Continued...

	with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result. The material may produce foreign body irritation in certain individuals.
Chronic	There is sufficient evidence to provide a strong presumption that human exposure to the material may result in impaired fertility on the basis of: - clear evidence in animal studies of impaired fertility in the absence of toxic effects, or evidence of impaired fertility occurring at around the same dose levels as other toxic effects but which is not a secondary non-specific consequence of other toxic effects. Exposure to the material may cause concerns for humans owing to possible developmental toxic effects, generally on the basis that results in appropriate animal studies provide strong suspicion of developmental toxicity in the absence of signs of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not a secondary non-specific consequence of other toxic effects. On the basis, primarily, of animal experiments, concern has been expressed by at least one classification body that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment. High doses of the androgens over prolonged periods may produce hepatic tumours. Androgens may also accelerate growth of malignant neoplasms of the prostate. The prolonged use of 17alpha alkylated derivatives in particular has been associated with the development of hepatic adenomas and hepatocellular carcinoma. In pregnant women, androgens may cause virilisation of the external genitalia of the female foetus. Large and repeated doses of androgens in early puberty may cause closure of the epiphyses (growth areas at the end of long bones) and prevent linear growth. Elderly males may become over-stimulated. In females, the inhibitory action of testosterone on the activity of the pituitary results in suppression of ovarian activity. In men, large doses suppress spermatogenesis and cause degenerative changes in the seminiferous tubules creating a form of sterility. Androgens may accelerate the growth of malignant tumours of the prostate. Liver cancers (hepatic angiosarcoma) have developed in patients undergoing androgen therapies for prolonged periods. This effect has also been noted amongst body builders self-administering anabolic steroids. Peliosis hepatitis, a condition in which liver and sometimes splenic tissue is replaced with blood-filled cysts, has been reported in patients receiving androgenic steroid therapy. These cysts are sometimes present with minimal hepatic dysfunction but at other times they have been associated with liver failure. They are often not recognised until life-threatening liver failure or intra-abdominal haemorrhage develops.

	TOXICITY	IRRITATION
trenbolone acetate	Not Available	Not Available

** Value obtained from manufacturer's msds*
unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances

TRENBOLONE ACETATE	Short-term side effects include insomnia high blood pressure night sweats, and increased libido he use of the drug over extended periods of time may lead to kidney damage. The kidney toxicity has not yet been proven, and scientific evidence supporting the idea is suspiciously absent from the bodybuilding community that perpetuates this idea. The origin of this myth most likely has to do with the rust colored oxidized metabolites of trenbolone which are excreted in urine and often mistaken for blood. .

Acute Toxicity	⊘	**Carcinogenicity**	⊘
Skin Irritation/Corrosion	⊘	**Reproductivity**	✔
Serious Eye Damage/Irritation	⊘	**STOT - Single Exposure**	⊘
Respiratory or Skin sensitisation	⊘	**STOT - Repeated Exposure**	⊘
Mutagenicity	⊘	**Aspiration Hazard**	⊘

Legend: ✔ *– Data required to make classification available*
✘ *– Data available but does not fill the criteria for classification*
⊘ *– Data Not Available to make classification*

CMR STATUS

Not Applicable

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Continued...

NOT AVAILABLE

Ingredient	Endpoint	Test Duration	Effect	Value	Species	BCF
trenbolone acetate	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.
Wastes resulting from use of the product must be disposed of on site or at approved waste sites.
The disposition and fate of sex steroids (both natural and synthetic) in the environment must be considered in light of their potential to act as "endocrine disruptors". High doses of commercially available and illicit anabolic androgenic steroids (related to androgens, most being derivatives of testosterone, and which promote skeletal muscle growth coupled with male sexual characteristics) are found in sewage. Coupled with their direct action at the endocrine level, they could pose particular concern with respect to the health of aquatic organisms. Little work has been performed on low-level exposure to androgens (in contrast to that performed on female sex hormones, the oestrogens). Androgenic steroid-spiked feeds have been long-used, however, for growth enhancement and for forcing desirable sex-ratios (via sex-inversion) in aquacultured fin fish. Androgens (such as could be expected from abuse of illicit anabolic steroids) have the potential, at low levels (ppb), to elicit aquatic effects (e.g., skewed sex-ratios). This is illustrated by the fact that short-term, brief immersion of fish fry in androgenic steroid-spiked water (17-methyltestosterone and 17-methyldihydrotestosterone) can induce sex inversion ; aromatisable androgens, such as 17-methyltestosterone, can also lead to "paradoxical feminisation". Although the short-term concentrations required for total sex inversion in fish are orders of magnitude higher than what could be expected in sewage, the question remains as to what other possible effects (e.g., tumorigenic/teratogenic) could occur from continual exposures to androgens from sewage effluent, especially during critical developmental milestones.
17-beta-trenbolone (a synthetic androgen) which is a metabolite of a steroidal growth promoter administered to cattle has shown to be potent in the aquatic environment. This potent androgenic chemical is present in relatively high concentrations in waters receiving cattle feedlot effluent and is probably responsible for the masculinisation of fish observed at these locations
DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
Not Available	Not Available	Not Available

Bioaccumulative potential

Ingredient	Bioaccumulation
Not Available	Not Available

Mobility in soil

Ingredient	Mobility
Not Available	Not Available

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal

- Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.

Otherwise:

- If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
- Where possible retain label warnings and MSDS and observe all notices pertaining to the product.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.
A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate. In most instances the supplier of the material should be consulted.

- DO NOT allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.
- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- Dispose of by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in

Continued...

	• a licenced apparatus (after admixture with suitable combustible material) • Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	
HAZCHEM	2Z

Land transport (ADG)

UN number	3077
Packing group	III
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains trenbolone acetate)
Environmental hazard	No relevant data
Transport hazard class(es)	Class: 9 Subrisk: Not Applicable
Special precautions for user	Special provisions: 179 274 331 335 AU01 Limited quantity: 5 kg

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082
are not subject to this Code when transported by road or rail in;
(a) packagings;
(b) IBCs; or
(c) any other receptacle not exceeding 500 kg(L).
- Australian Special Provisions (SP AU01) - ADG Code 7th Ed.

Air transport (ICAO-IATA / DGR)

UN number	3077
Packing group	III
UN proper shipping name	Environmentally hazardous substance, solid, n.o.s. * (contains trenbolone acetate)
Environmental hazard	No relevant data
Transport hazard class(es)	ICAO/IATA Class: 9 ICAO / IATA Subrisk: Not Applicable ERG Code: 9L
Special precautions for user	Special provisions: A97A158A179 Cargo Only Packing Instructions: 956 Cargo Only Maximum Qty / Pack: 400 kg Passenger and Cargo Packing Instructions: 956 Passenger and Cargo Maximum Qty / Pack: 400 kg Passenger and Cargo Limited Quantity Packing Instructions: Y956 Passenger and Cargo Limited Maximum Qty / Pack: 30 kg G

Sea transport (IMDG-Code / GGVSee)

UN number	3077
Packing group	III

Continued...

UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains trenbolone acetate)
Environmental hazard	No relevant data
Transport hazard class(es)	IMDG Class: 9 IMDG Subrisk: Not Applicable
Special precautions for user	EMS Number: F-A , S-F Special provisions: 274 335 966 967 Limited Quantities: 5 kg

SECTION 15 REGULATORY INFORMATION

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

trenbolone acetate(10161-34-9) is found on the following regulatory lists	"International Maritime Dangerous Goods Requirements (IMDG Code)","Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5","FAO/WHO Codex Alimentarius - Veterinary Drug Residues in Food - Maximum Residue Limits (English)","International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index","FAO/WHO Codex Alimentarius - Veterinary Drug Residues in Food - Maximum Residue Limits (Spanish)","Australia New Zealand Food Standards Code - Maximum Residue Limits (Australia only) - Schedule 1","Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4","United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)","Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes","FAO/WHO Codex Alimentarius - Veterinary Drug Residues in Food - Maximum Residue Limits (French)","Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)","United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (Spanish)","Sigma-AldrichTransport Information","Australia Australian Pesticides and Veterinary Medicines Authority (APVM) Record of approved active constituents","International Air Transport Association (IATA) Dangerous Goods Regulations","Australia - Victoria Drugs, Poisons and Controlled Substances Act 1981 - Schedule 11 - Part 3","Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List","Australia - New South Wales Protection of the Environment Operations (Waste) Regulation 2005 - Characteristics of trackable wastes"

SECTION 16 OTHER INFORMATION

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.