

Section 1 - Identification of The Material and Supplier

Turf Culture Pty Ltd
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www.turfculture.co.nz

Chemical nature: Blend of ingredients.
Trade Name: **Turf Culture Astro 250 EC NZ Growth Regulator**
EPA Approval No: HSR100680
Product Use: Plant growth regulator for use as described on the product label.
Creation Date: **August 2010**
This version issued: **April, 2018** and is valid for 5 years from this date.
New Zealand Supplier: PGG Wrightson Turf Ltd
 31 Allright Place, Mt Wellington, Auckland, New Zealand
 Ph: +64 09 570 2570, Fax: +64 09 570 4064
www.pggwrightsonturf.co.nz
Emergency Telephone No. 0800 764 766 (from anywhere in New Zealand).

Section 2 - Hazards Identification

Statement of Hazardous Nature.

This substance is classified as hazardous according to the HSNO (Minimum Degrees of Hazard) Regulations 2001.

This substance is classified as a dangerous good for Land Transport in New Zealand according to NZS5433: 2012.

EPA Approval Code: HSR100680
HSNO Classification: 3.1D, 6.3B, 8.3A, 9.1A, 9.1D, 9.2D
Signal Word: **Danger**
Label Pictograms



Hazard Code	Hazard Statement	GHS Category
H227	Combustible liquid.	Flammable Liquid Category 4
H316	Causes mild skin irritation.	Skin Irritation Category 3
H318	Causes serious eye damage.	Eye irritation Category 1
H410	Very toxic to aquatic life with long lasting effects.	Acute Aquatic Ecotoxicity Category 1
H423	Harmful to the soil environment.	NA

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection*.
Response code	Response Statement

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P101	If medical advice is needed, have product container or label at hand.
P310	Immediately call a POISON CENTER or doctor/physician.
P391	Collect spillage.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
S77A	Do not apply onto or into water.

Storage Code	Storage Statement
P403 + P235	Store in a well-ventilated place. Keep cool.

Disposal	Disposal Statement
Container Disposal	Ensure the container is empty. Triple rinse empty container and add rinsate to spray tank. Recycle punctured container without caps through Agrecovery (0800 247 326, www.agrecovery.co.nz). Otherwise crush and bury in a suitable landfill. DO NOT reuse this container for any other purpose.
Product Disposal	Disposal of this product only by using according to this label, or at an approved landfill or other approved facility.

Section 3 - Composition/Information on Ingredients

Ingredients (mg/m³)	CAS No.	Conc. %	TWA (mg/m³)	STEL
Trinexapac-ethyl	95266-40-3	250g/L	not set	not set
Fatty acid esters	secret	30-60	not set	not set
Non-ionic surfactant	secret	10-30	not set	not set
Other non-hazardous ingredients	various	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non-hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8-hour working day for a 5-day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term 'peak' is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 0800 764 766 in New Zealand and is available at all times. Have this SDS with you when you call.

Inhalation: No first aid measures normally required. However, if inhalation has occurred, and irritation has developed, remove to fresh air and observe until recovered. If irritation becomes painful or persists more than about 30 minutes, seek medical advice.

Skin Contact: Wash gently and thoroughly with warm water (use non-abrasive soap if necessary) for 10-20 minutes or until product is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts) and completely decontaminate them before reuse or discard. If irritation persists, repeat flushing and seek medical attention.

Eye Contact: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses. Immediately call a POISON CENTER or doctor/physician

Ingestion: If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

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Section 5 - Fire Fighting Measures

HAZCHEM Code: 3Z Contain Spillage.

Fire and Explosion Hazards: This product is classified as a C1 combustible product. There is little risk of an explosion from this product if commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: Suitable extinguishing media are carbon dioxide, dry chemical, foam, water fog.

Fire Fighting: Use breathing apparatus. Contain spillage.

Flash point: >67°C

Upper Flammability Limit: No data.

Lower Flammability Limit: No data.

Autoignition temperature: No data.

Flammability Class: Flammable Category 4 (GHS), C1 combustible (AS 1940)

Section 6 - Accidental Release Measures

Accidental release: In the event of a major spill, prevent spillage from entering drains or watercourses. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. No special recommendations for clothing materials. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian/New Zealand Standards mentioned below (section 8). Otherwise, not normally necessary.

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. After spills, wash area-preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. This material may be suitable for approved landfill. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

Section 7 - Handling and Storage

Approved Handler: This Product must be under the personal control of an Approved Handler when used in a wide dispersive manner.

Handling: Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under 'Storage' should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: Keep away from heat/sparks/open flames/hot surfaces. No smoking. Note that this product is combustible and therefore, for Storage, meets the definition of Dangerous Good. If you store large quantities (tonnes) of such products, we suggest that you consult your state's Dangerous Goods authority in order to clarify your obligations regarding their storage.

Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under 'Incompatibilities' in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.

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Section 8 - Exposure Controls and Personal Protection

The following Australian/ New Zealand Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits

TWA (mg/m³)

STEL (mg/m³)

Exposure limits have not been established by SWA for any of the significant ingredients in this product.

The ADI for Trinexapac-ethyl is set at 0.01mg/kg/day. The corresponding NOEL is set at 1.4mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Taken from Australian ADI List, June 2013.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: This product should only be used in a well-ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

Eye Protection: Protective glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used.

Skin Protection: Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types.

Protective Material Types: We suggest that protective clothing be made from the following materials: PVC.

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian/New Zealand Standard mentioned above. Otherwise, not normally necessary.

Eyebaths or eyewash stations and safety deluge showers should be provided near to where this product is being used.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Yellow coloured liquid.
Odour:	Characteristic fatty ester odour.
Boiling Point:	Not available.
Freezing/Melting Point:	No specific data. Liquid at normal temperatures.
Volatiles:	No data.
Vapour Pressure:	No data.
Vapour Density:	No data.
Specific Gravity:	1.002
Water Solubility:	Emulsifiable.
pH:	3.0-3.5 (1% in water)
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	No data.
Autoignition temp:	No data.

Section 10 - Stability and Reactivity

Reactivity: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

Conditions to Avoid: Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: acids, strong bases, strong oxidising agents.

Fire Decomposition: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: This product will not undergo polymerisation reactions.

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Section 11 - Toxicological Information

Local Effects:

Target Organs: There is no data to hand indicating any particular target organs.

Emergency Overview

Physical Description & Colour: Yellow coloured liquid.

Odour: Characteristic fatty ester odour.

Major Health Hazards: irritating to eyes and skin, if aspirated, may cause lung damage.

Potential Health Effects

Inhalation:

Short Term Exposure: Available data indicates that this product is not harmful. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

Long Term Exposure: No data for health effects associated with long-term inhalation.

Skin Contact:

Short Term Exposure: Available data indicates that this product is a skin irritant. Symptoms may include itchiness and reddening of contacted skin. Other symptoms may also become evident, but all should disappear once exposure has ceased.

Long Term Exposure: No data for health effects associated with long-term skin exposure.

Eye Contact:

Short Term Exposure: This product is an eye corrosive. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage.

Long Term Exposure: Can cause permanent eye damage.

Ingestion:

Short Term Exposure: Significant oral exposure is considered to be unlikely. Because of the low viscosity of this product, it may directly enter the lungs if swallowed, or if subsequently vomited. Once in the lungs, it is very difficult to remove and can cause severe injury or death. However, this product is an oral irritant. Symptoms may include burning sensation and reddening of skin in mouth and throat. Other symptoms may also become evident, but all should disappear once exposure has ceased.

Long Term Exposure: No data for health effects associated with long-term ingestion.

Carcinogen Status:

NTP: No significant ingredient is classified as carcinogenic by NTP.

IARC: No significant ingredient is classified as carcinogenic by IARC.

Classification of Hazardous Ingredients

Ingredient: Trinexapac-ethyl

LD₅₀ Oral, Rat >2000mg/kg

LD₅₀ Dermal, Rat = >2000mg/kg

LC₅₀ Inhalation, Rat = >5.33mg/L/4hr

Section 12 - Ecological Information

This product is very toxic to aquatic organisms. This product is not readily biodegradable. Do not allow to enter waterways. Likely to degrade slowly in the soil or water. This product is unlikely to accumulate in body tissues. For Trinexapac-ethyl

Fish: LC₅₀ rainbow trout (*Oncorhynchus mykiss*): 34.1mg/L

Algae: EC₅₀ *Scenedesmus subcapitata* 21mg/L

Daphnia: EC₅₀ >100mg/L

Trinexapac-ethyl does not fulfil the criteria for being readily biodegradable, but it is degraded in the environment. Half-life times are usually less than 1 day in soil. Degradation products are further degraded, but slower. Degradation occurs mainly microbiologically.

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Section 13 - Disposal Considerations

- Product Disposal** Dispose of this product only by using according to this label, or at an approved landfill or other approved facility.
- Container Disposal** Ensure the container is empty. Triple rinse empty container and add rinsate to spray tank. Recycle punctured container without caps through Agrecovery (0800 247 326, www.agrecovery.co.nz). Otherwise crush and bury in a suitable landfill. DO NOT reuse this container for any other purpose. Do not allow to enter waterways.

Section 14 - Transport Information

New Zealand

Classified as at Dangerous Goods for transport in accordance with the Land Transport Rule Dangerous Goods 2005 and NZS 5433:2012.

Transport Pictogram



Road and Rail Transport

UN No 3082
 Class-primary 9
 Packing Group PGIII
 Proper Shipping Name ENVIRONMENTALLY HAZARDOUS
 SUBSTANCE, LIQUID, N.O.S. (Trinexapac Ethyl 25%)

Marine Transport

UN No 3082
 Class-primary 9
 Packing Group PGIII
 Proper Shipping Name ENVIRONMENTALLY HAZARDOUS
 SUBSTANCE, LIQUID, N.O.S. (Trinexapac Ethyl 25%)

Air Transport

UN No 3082
 Class-primary 9
 Packing Group PGIII
 Proper Shipping Name ENVIRONMENTALLY HAZARDOUS
 SUBSTANCE, LIQUID, N.O.S. (Trinexapac Ethyl 25%)

Section 15 - Regulatory Information

New Zealand:

EPA Approval No: HSR100680 See www.epa.govt.nz for controls.

HSNO Classification: 3.1D, 6.3B, 8.3A, 9.1A, 9.1D, 9.2D

HSNO Controls

Approved Handler	This product must be under the control of an approved handler.
Additional Controls s77A	The substance must not be applied onto or into water.
Location Certificate	Not applicable
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	100L (9.1A)
Emergency Response Plan trigger Quantities	100L (9.1A)

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Secondary Containment	100L (9.1A)
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Section 16 - Other Information

This SDS contains only safety-related information. For other data see product literature.

Acronyms:

CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
UN Number	United Nations Number

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS

OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This SDS is prepared in accordance with the NZ Code of Practice (HSNOCOP8) Preparation of Safety Data Sheets.

Issue Date 17/09/14

Review Date 17/09/19

SAFETY DATA SHEET