

Section 1 - Identification of The Material and Supplier

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Chemical nature:	Active ingredient is a fluorinated triazole derivative.
Trade Name:	Turf Culture Smackdown NZ Moss & Broadleaf Herbicide
EPA Approval No:	HSR000436
Product Use:	Agricultural herbicide for use as described on the product label.
Creation Date:	June 2014
This version issued:	November, 2017 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:	HSR000436
HSNO Classification:	3.1D, 6.1E (oral), 6.3B, 6.4A, 6.9B, 9.1A, 9.2A
Signal Word:	Warning
Label Pictograms	



Hazard Code	Hazard Statement	GHS Category
H227	Combustible liquid.	Flammable liquid Category 4
H303	May be harmful if swallowed.	Acute oral toxicity Category 5
H316	Causes mild skin irritation.	Skin irritation Category 3
H320	Causes eye irritation.	Eye irritation Category 2B
H373	May cause damage to organs through prolonged or repeated exposure.	STOT Category 2
H410	Very toxic to aquatic life with long lasting effects.	Aquatic Toxicity Category 1
H421	Very toxic to the soil environment.	Ecotoxic to the soil environment.

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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.
- P260 Do not breathe mist/vapours/spray.
- P264 Wash hands thoroughly after handling.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- S77A Do not apply onto or into water.

Response code

Response Statement

- P101 If medical advice is needed, have product container or label at hand.
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P314 Get medical advice/attention if you feel unwell.
- P331 Do NOT induce vomiting.
- 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.
- P337 + P313 If eye irritation persists: Get medical advice/attention.

Storage Code

Storage Statement

- P410 Protect from sunlight.
- 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/m ³)	CAS No.	Conc. %	TWA (mg/m ³)	STEL
Carfentrazone ethyl	128639-02-1	240g/L	not set	not set
Aromatic hydrocarbons	64742-94-5	727g/L	not set	not set
Other non-hazardous ingredients	secret	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.

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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: First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Skin Contact: Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until chemical is removed.

Eye Contact: If irritation occurs, Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice if needed.

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

Section 5 - Fire Fighting Measures

Hazchem Code: 3Z Contain Spillage

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. 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 are likely to be toxic and corrosive if inhaled. Take appropriate protective measures.

Extinguishing Media: In case of fire, use carbon dioxide, dry chemical, foam, water fog.

Fire Fighting: Use breathing apparatus. Contain spillage.

Flash point: 88°C

Upper Flammability Limit: No data.

Lower Flammability Limit: No data.

Autoignition temperature: >450°C

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. As a minimum, wear overalls, goggles and gloves. Suitable materials for protective clothing include rubber. 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. It should be fitted with a type A cartridge, suitable for organic vapours.

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.

Refer to product label for specific instructions. After spills, wash area-preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this SDS and the label, instructions on the label prevail. 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 control of an Approved Handler.

Handling: Combustible Liquid. 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.

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Storage: Combustible Liquid. Keep away from heat/sparks/open flames/hot surfaces. No smoking. 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.

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)
N-Methyl-2-pyrrolidone	103	309

The ADI for Carfentrazone ethyl ester is set at 0.03mg/kg/day. The corresponding NOEL is set at 3mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data 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: Eye protection such as protective glasses or goggles is recommended when this product is being used.

Skin Protection: You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product. See below for suitable types.

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

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian/New Zealand Standard mentioned above.

Safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Yellow orange liquid.
Odour:	Characteristic odour.
Boiling Point:	220-290°C at 100kPa (solvent)
Freezing/Melting Point:	No specific data. Liquid at normal temperatures.
Volatiles:	No specific data. Expected to be low at 100°C.
Vapour Pressure:	Negligible at normal ambient temperatures.
Vapour Density:	>1 (solvent)
Specific Gravity:	1.074
Water Solubility:	Emulsifiable.
pH:	No data.
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	3.36 (log P octanol/water)
Autoignition temp:	>450°C

Section 10 - Stability and Reactivity

Reactivity: No significant decomposition products. Hydrolyses at pH >7.

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: strong oxidising agents.

Fire Decomposition: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly 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. May form hydrogen fluoride gas and

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other compounds of fluorine. 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.

Section 11 - Toxicological Information

Target Organs: No Data

Emergency Overview

Physical Description & Colour: Yellow orange liquid.

Odour: Characteristic odour.

Major Health Hazards: if aspirated, may cause lung damage, repeated exposure may cause skin dryness or cracking.

Potential Health Effects

Inhalation:

Short Term Exposure: Available data indicates that this product is not harmful. In addition product is unlikely to cause any discomfort or irritation.

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 not harmful. It should present no hazards in normal use. However product may be irritating, but is unlikely to cause anything more than mild transient discomfort.

Long Term Exposure: Repeated exposure may cause skin dryness or cracking.

Eye Contact:

Short Term Exposure: This product may be irritating to eyes, but is unlikely to cause anything more than mild transient discomfort.

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

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 may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.

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

Carcinogen Status:

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

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: Carfentrazone Ethyl Ester

LD₅₀ Oral, Rat >5000mg/kg

LD₅₀ Dermal, Rabbit = >5000mg/kg

LC₅₀ Inhalation, Rat = >5.72mg/L/4hr

SKIN: Non-irritant. Not a skin sensitiser (guinea pig).

EYES: Mild irritant (rabbit).

In studies using laboratory animals Carfentrazone-ethyl did not cause reproductive, developmental nor carcinogenic effects.

Negative in *in vitro* tests for genotoxicity.

The ADI for Carfentrazone ethyl ester is set at 0.03mg/kg/day. The corresponding NOEL is set at 3mg/kg/day.

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Section 12 - Ecological Information

This product is toxic to aquatic organisms. This product is biodegradable. It will not accumulate in the soil or water or cause long-term problems.

Environmental fate, persistence and degradation:

Carfentrazone-ethyl is rapidly degraded in soils under aerobic and anaerobic conditions. The half-life in soil is 1-2 days. It is rapidly hydrolysed at pH 9 but stable at pH 5.

Field studies show that Carfentrazone-ethyl has low mobility in soil.

Aquatic toxicity:

Toxic to aquatic organisms. Bio-concentration factor in fish of 167.

Risk of bioaccumulation in an aquatic species is low.

Log Octanol/Water Partition Coefficient: 3.36

Birds: LD₅₀ bobwhite quail: >1000mg/kg

Fish: LC₅₀ fish: 1.6-43mg/L

Bees: LD₅₀ >100µg/bee (contact)

Daphnia: EC₅₀ 9.8mg/L

Do not allow to enter waterways.

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. Do not allow to enter waterways.

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.

Section 14 - Transport Information

New Zealand

Classified as a Dangerous Good 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.

Marine Transport

UN No	3082
Class-primary	9
Packing Group	PGIII
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Air Transport

UN No	3082
Class-primary	9
Packing Group	PGIII

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Proper Shipping Name

ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, LIQUID, N.O.S.

Section 15 - Regulatory Information

New Zealand:

EPA Approval No: HSR000436 See www.epa.govt.nz for controls.

HSNO Classification: 3.1D, 6.1E (oral), 6.3B, 6.4A, 6.9B, 9.1A, 9.2A

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)
Secondary Containment	100L (9.1A)

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 17/03/2015

Review Date 17/03/2020

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