

Turf Culture Smackdown NZ Moss Control

1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

Product Name: Turf Culture Smackdown NZ Moss Control
Supplier: Turf Culture Pty Ltd
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Chemical name of active ingredient: Carfentrazone-ethyl
Recommended Use: For the Control of Moss in Golf and Bowling Greens, amenity areas and Lawns.

Emergency telephone number: 0800 Poison (0800 764 766) 24 Hours

2. HAZARD IDENTIFICATION

Hazard Classification

3.1D, 6.1E, 6.3B, 6.4A, 6.9B, 9.1A, 9.2A
 Required identification Details: Combustible Liquid
 Toxic if ingested.

Presumed to cause liver damage from repeated oral exposure at high doses.

May cause eye and skin irritation.

Ecotoxic to aquatic life. Do not apply to bodies of water. Toxic to fish. Do not contaminate sewers, drains, dams, creeks or any other waterways with product or empty container.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation Information on hazardous ingredients

Ingredients Name	CAS No.	%
Carfentrazone-ethyl	128639-02-1	24
Liquid Hydrocarbon	64742-94-5	> 60
Surfactants	Proprietary	1-10

4. FIRST AID MEASURES

Description of necessary first aid measures:

First-aid measures

Inhalation: Remove to fresh air. Apply artificial respiration if necessary. Get medical help if breathing difficulty persists.

Ingestion: If swallowed do NOT induce vomiting. For advice, contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor immediately.

Skin contact: Remove contaminated clothing and wash affected areas of skin immediately. DO NOT scrub the skin. If irritation persists see a doctor. Wash contaminated clothing before re-use.

Eye contact: Immediately flush with water for 15 minutes. If irritation persists see a doctor.

Notes to a physician:

This product has low oral dermal and inhalation toxicity. It is mildly irritating to the skin and eyes. This product contains light aromatic hydrocarbons that can produce a severe pneumonitis or fatal pulmonary oedema if aspirated during vomiting. Consideration should be given to gastric lavage with an endotracheal tube in place. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

5. FIRE FIGHTING MEASURES

HAZCHEM Code: 3Z

Extinguishing media: Foam, CO₂, dry chemical.

Hazardous thermal (de)composition products:

>50 Litres X 1, 200 Litres+ X2

Flammable. Flashpoint 80OC (CC)

Carbon monoxide, carbon dioxide, oxides of nitrogen, Hydrogen chloride and hydrogen fluoride.

Protection of fire-fighters: Wear full protective clothing and self contained breathing apparatus. Do not breath smoke or gases.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear suitable protective clothing (refer section 8).

Environmental precautions: Contain spill, do not allow material to enter sewers or bodies of water. Keep unprotected persons and animals out of the area.

Methods for cleaning up: Soak up with sand, sawdust or other absorbent material, shovel or sweep up and bury in an approved landfill.

7. HANDLING AND STORAGE

Handling: Keep away from naked flame. Avoid skin and eye contact. Wear protective clothing as below (section 8).

Storage: Store in original container tightly closed in a locked, dry, well ventilated place away from food and feedstuffs. Keep away from sparks, heat and flames. Keep out of reach of children or animals.

Packaging materials: Plastic containers (Fluorinated HDPE)

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Workplace Exposure Guidelines

Workplace exposure standards: Not Set

Exposure Standards outside the workplace: Not set

Engineering measures

Exposure control measures: Use local exhaust at all process locations where vapour or mist may be emitted. Ventilate all transport vehicles prior to unloading.

Personal Protective Equipment

Detail specifications for equipment: Respiratory system: For splash, mist or spray exposure wear, as a minimum, a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (U.S.NIOSH/MSHA, EU CEN or comparable certification organization). Respirator use and selection must be based on airborne concentrations.

Skin and body: For splash, mist or spray exposure, wear chemical protective Goggles or a face shield.

Hands: Wear chemical protective gloves made of materials such as nitrile or neoprene. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

Eyes: Safety goggles or face shield.

General hygiene: Wash hands and face after use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Liquid
Appearance	Yellow orange
Odour:	Aromatic solvent odour
pH (1% aqueous solution):	5.25
Vapour Pressure:	5.4 X 10 ⁻⁸ @20o C

Vapour Density:	N/A
Boiling Point:	N/A
Solubility:	Emulsifies
Specific gravity or density:	N/A
Flashpoint:	80°C
Explosion properties:	Not Explosive
Oxidation properties:	Not an oxidiser

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal conditions. Hydrolyses at pH >7.
Conditions to avoid:	Keep away from naked flame.
Materials to avoid:	Oxidising agents
Hazardous decomposition	
Products:	Refer to 5 above
Hazardous polymerisation:	N/A
Hazardous reactions:	N/A

11. TOXICOLOGICAL INFORMATION

Acute toxicity - Oral:	4,077 mg/kg (rat)
Acute toxicity - Dermal:	> 4,000 mg/kg (rat)
Acute toxicity - Inhalation:	6.31 mg/l (4 h) (rat) Zero mortality
Skin irritation:	Mildly irritating (rabbit)
Eye irritation:	Mildly irritating (rabbit)
Sensitisation:	N/A
Common name:	Carfentrazone-ethyl

Chronic toxicity	
Carcinogenicity:	N/A
Mutagenicity:	N/A
Reproduction toxicity:	N/A

Other information:

ACUTE EFFECTS FROM OVEREXPOSURE: This product has low oral, dermal and inhalation toxicity. It is mildly irritating to the skin and eyes. Signs of toxicity in laboratory animals included mydriasis, cyanosis, ataxia, dyspnea, lacrimation, and diarrhoea. Inhalation of aromatic hydrocarbon vapours may cause dizziness, disturbances in vision, drowsiness, respiratory irritation, and eye, skin and mucous membrane irritation. Vomiting after ingestion of this product may cause aspiration of aromatic hydrocarbons into the lungs, which may result in fatal pulmonary oedema.

CHRONIC EFFECTS FROM OVEREXPOSURE: No data available for the formulation. In studies with laboratory animals, carfentrazone-ethyl did not cause reproductive toxicity, teratogenicity, or carcinogenicity. An overall absence of genotoxicity has been demonstrated in tests of mutagenicity, DNA damage and chromosome aberrations. Chronic exposure to aromatic hydrocarbons may cause headaches, dizziness, loss of sensations or feelings (such as numbness), and liver and kidney damage.

12. ECOLOGICAL INFORMATION

No data available for the formulation. Data presented below are based on the active ingredient.

ENVIRONMENTAL DATA:

Carfentrazone-ethyl is rapidly degraded in soil (DT50 < 1.5 days) through microbial degradation, initially by hydrolysis to F8426-chloropropionic acid, and then through further sidechain degradation to other acids. Based on field studies, carfentrazone-ethyl and its major metabolite, F8426-chloropropionic acid, are confined to the topsoil layer, indicating only slight mobility in soil.

Carfentrazone-ethyl is hydrolytically unstable in base (half-life of 5.1 hours), with stability increasing

with decreasing pH. It is susceptible to photolytic degradation in water, with a half-life of 8.3 days (pH 5). The Log Pow is 3.36 and the measured bio-concentration factor in whole fish is 159, both indicating a low potential for accumulation. Its vapour pressure is 1.19×10^{-7} torr, indicating that volatility is not a concern with this chemical.

ECOTOXICOLOGICAL INFORMATION:

Marine: Carfentrazone-ethyl is very toxic to algae (EC50: 5.7 to 17 ug/L), and much less toxic to fish (LC50: 1.6 to 2.0 mg/L), and aquatic crustacea (LC50 > 9.8 mg/L). Care should be taken to avoid contamination of the aquatic environment. Do not contaminate bodies of water with chemical or empty container.

Soil: In a test with earthworms, carfentrazone-ethyl was shown to cause no effects at concentrations up to 820 mg/kg in soil. Rapidly degraded in soils, half-life is 1-2 days. Low potential for movement in soil. Rapidly hydrolyses at pH9 but stable at pH5.

Birds: Low toxicity to birds. Carfentrazone-ethyl shows little toxicity to birds either orally (LD50 > 2,250 mg/kg), or in the diet (LC50 > 5,620 ppm). Similarly, carfentrazone-ethyl has low toxicity to bees (no death at 200 ug/bee).

13. DISPOSAL CONSIDERATIONS

Methods of disposal: Triple rinse container and add to spray tank, burn if circumstances, particularly wind direction, permit allow, otherwise crush and bury in an approved landfill.

14. STORAGE & TRANSPORT INFORMATION

International Transport Regulations

U.N. Number:	UN 3082
Class or Division:	9
Classification Code:	M6
Packing Group:	III
Marine Pollutant:	Carfentrazone-ethyl 22.73%
Proper shipping name:	Environmentally hazardous substance, Liquid, N.O.S., carfentrazone ethyl.

International Air Transport Association (IATA):

Notes: Smackdown meets no criterion established for dangerous good when shipped by aircraft.

15. REGULATORY INFORMATION

HSNO Approval Code: HSR 000436

16. OTHER INFORMATION

All due care and skill, so far as practicable, has been applied in the preparation and collation of the information in this Safety Data Sheet. Each user of the Product named in this SDS should read and consider the information contained in this SDS in the context of how the Product will be stored, handled, used or applied in the workplace. In all circumstances, it is the responsibility of the user of the Product to ensure that they have sought out the relevant safety data appropriate to their particular situation.

Nothing contained in this SDS shall be construed as a representation or recommendation to the user about the suitability or otherwise of the Product named in this SDS for the user's particular situation. If the user requires any clarification or further information, the user should contact Turf Culture Pty Ltd.

Please read all labels carefully before using product.