SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **Spartan NZ Herbicide**
Product Use: Herbicide
Restriction of Use: Refer to Section 15

Manufacturer: **Turf Culture Pty Ltd**
43 Gap Road, Sunbury, Vic 3429 Australia
Phone: +61 1300 11 8873 Fax: +61 3 8888 9991
https://www.turfculture.co.nz/

New Zealand Distributors: **Greenshed NZ Ltd** (trading as Living Turf)
24D Allright Place
Mt Wellington, Auckland 1060, New Zealand
+64 0800 428 268
https://livingturf.co.nz/

PGG Wrightson Turf Ltd
3/118 Savill Drive,
Mangere East, Auckland 2024, New Zealand
Phone: +64 09 570 2570
https://pggwrightsonturf.com/nz

Emergency No: **0800 764 766 (National Poison Centre)**

Date of SDS Preparation: 19 September 2023

Section 2. Hazards Identification

This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2020

EPA Approval No: HSR101240

Pictograms

Signal Word: **Warning**

GHS Classification and Category	Hazard Code	Hazard Statement
Specific target organ toxicity – repeated exposure Cat. 2	H373	May cause damage to the liver through prolonged or repeated exposure.
Hazardous to the aquatic environment acute Cat. 1	H400	Very toxic to aquatic life.

Hazardous to the aquatic environment chronic Cat. 1	H410	Very toxic to aquatic life with long lasting effects.
Hazardous to soil organisms	H423	Hazardous to soil organisms

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P260	Do not breathe mist or spray.
P273	Avoid release to the environment.

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P314	Get medical advice/attention if you feel unwell.
P391	Collect spillage.

Storage Code	Storage Statement
-	Store in the closed, original container in a cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight.

Disposal Code	Disposal Statement
P501	**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 Hazardous Ingredients

Ingredients	Content g/L	CAS NUMBER.
Prodiamine	480	29091-21-2
Propylene glycol	50-100	57-55-6
Other ingredients not contributing to overall hazard classification	to 1L	Trade secret

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes — Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

If on Skin — Take off all contaminated clothing immediately and wash before reuse. Wash off immediately with plenty of water. If skin irritation persists, call a doctor.

If Swallowed — If swallowed, do NOT induce vomiting. Wash mouth with water: Seek medical assistance if needed.

If Inhaled — Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a Doctor or the Poisons Information Centre if needed.

Most important symptoms and effects, both acute and delayed.

Symptoms: Available data shows that this product is harmful, but specific symptoms are not available. However, product is unlikely to cause any discomfort or irritation

Notes to Doctor: There is no specific antidote available. Treat symptomatically.

Section 5. Fire Fighting Measures

Hazard Type	Non-combustible liquid.
Hazards from decomposition products	Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.
Suitable Extinguishing media	Not combustible. Use extinguishing media suited to burning materials. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used. Try to contain spills, minimise spillage entering drains or water courses.
Precautions for firefighters and special protective clothing	There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is full fire kit and breathing apparatus.
HAZCHEM CODE	**3Z**

Section 6. Accidental Release Measures

For emergency responders:
Wear protective equipment as detailed in Section 8. Keep unprotected persons away. In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including eye/face protection. All skin areas should be covered. Suitable materials for protective clothing include rubber, PVC or butyl rubber. Eye/face protective equipment should comprise, as a minimum, protective glasses and, preferably, 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.

Environmental precautions:
Prevent further leakage or spillage if safe to do so.
Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and material for containment and cleaning up:
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. Because of the environmentally hazardous nature of this product, special care should be taken to restrict release to waterways or drains. 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. (see also section 13 for disposal options).

Section 7. Handling and Storage

Precautions for Handling:

- Read carefully and follow all instructions.
- Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Wash hands thoroughly after handling.
- Wear protective clothing as detailed in Section 8.
- Avoid contact with skin and eyes.
- When using do not eat, drink or smoke.

Precautions for Storage:

- Store away from incompatible materials listed in Section 10.
- Store in a dry, well-ventilated place. Keep cool.
- Keep container tightly closed.
- Keep out of reach of children.
- Keep away from food, drink and animal feeding stuffs.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³
Propane-1,2-diol, Particulates Only {57-55-6]	10		not set	

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices APRIL 2022 13TH EDITION.

Engineering Controls

Containment and/or segregation is the most reliable technical protection measure if exposure. cannot be eliminated. The extent of these protection measures depends on the actual risks in use. Maintain air concentrations below occupational exposure standards. Where necessary, seek additional occupational hygiene advice if required.

Personal Protection Equipment

Eyes	Tightly fitting safety goggles or face shield. Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.
Hands	Wear chemical resistant impervious gloves such as Nitrile Rubber. Breakthrough time: >480min Glove thickness: 0.5mm
Body	Overalls and, preferably, apron. Make sure that all skin areas are covered. **Recommended Protective Material Types:** Rubber, PVC, butyl rubber.
Respiratory	No personal respiratory protective equipment normally required. When workers are facing concentrations above WES exposure limits they must use appropriate certified respirators.

General	The use of engineering controls should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice. Personal protective equipment should be certified to appropriate standards.

Section 9 Physical and Chemical Properties

Appearance	Liquid yellow suspension
Odour	No Data
Odour Threshold	No Data
pH	6.5-7.5
Boiling Point	Approximately 100°C at 100kPa.
Melting Point	Not available
Freezing Point	Approximately 0°C
Flash Point	Not Applicable
Flammability	Non flammable
Upper and Lower Explosive Limits	Not available
Vapour Pressure	2.37 kPa at 20°C (water vapour pressure).
Vapour Density	Not available
Relative Density	1.07 g/cm^3 (20°C)
Water Solubility	Not available
Partition co-efficient: n-octanol / water	No Data
Auto-ignition Temperature	Does not burn
Decomposition Temperature	Not available
Dynamic Viscosity	No Data
Particle Characteristics	No Applicable
Surface Tension	No Data

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Reactivity	No hazardous reactions by normal handling and storage according to provisions.
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.
Incompatible Materials	strong acids, strong bases, strong oxidising agents.
Hazardous Decomposition Products	This product is likely to decompose only after heating to dryness, followed by further strong heating. 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. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Not triggered.
Dermal	Not triggered.
Inhalation	Not triggered.
Eye	Not triggered.
Skin	Not triggered.

Chronic Effects:

Carcinogenicity	Not triggered.
Reproductive Toxicity	Not triggered.
Germ Cell Mutagenicity	Not triggered.
Aspiration	Not triggered.
STOT/SE	Not triggered.
STOT/RE	May cause damage to the liver through prolonged or repeated exposure.

Section 12. Ecotoxicological Information

Ecotoxic Hazards

- Hazardous to the aquatic environment acute Cat. 1
- Hazardous to the aquatic environment chronic Cat. 1
- Hazardous to soil organisms

Precautions: Do not allow to enter waterways.

Aquatic ecotoxicology: Prodiamine

Fish - Acute 96 hour LC_{50} (mg l^{-1})	0.829	*Oncorhynchus mykiss*
Fish - Chronic 21 day NOEC (mg l^{-1})	0.012	*Oncorhynchus mykiss* growth
Aquatic invertebrates - Acute 48 hour EC_{50} (mg l^{-1})	0.658	*Daphnia magna*
Aquatic invertebrates - Chronic 21 day NOEC (mg l^{-1})	0.023	*Daphnia magna* growth
Aquatic crustaceans - Acute 96 hour LC_{50} (mg l^{-1})	2.1	*Americamysis bahia*
Algae - Acute 72 hour EC_{50}, growth (mg l^{-1})	0.003	unknown species

Section 13. Disposal Considerations

Product Disposal

Dispose of this product only by using according to the label. Otherwise, dispose of waste at an approved landfill or other approved facility that will ensure the substance does not exceed the tolerable exposure limit (TEL) or environmental exposure limit (EEL), where relevant, or will treat the substance so that it is rendered no longer hazardous.

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.

Precautions or methods to avoid:
DO NOT contaminate ponds, waterways, or ditches with chemical or used containers. DO NOT dispose of waste into sewer.

Section 14 Transport Information

This product is classified as a Dangerous Good for transport in NZ; NZS 5433:2020

Road, Rail, Sea and Air Transport

UN No	3082
Class - Primary	9
Packing Group	III
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID N.O.S (Prodiamine)
Marine Pollutant	Yes
Special Provisions	If the product's individual container is below 5L, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information in accordance with Chapter 3.4 of the UNRTDG.

Section 15 Regulatory Information

This substance is classified hazardous according to the EPA Hazardous Substances (Classification) Notice 2020

EPA Approval No: HSR101240 See www.epa.govt.nz for controls.

HSW (HS) Regulations 2017	**Trigger Quantity**
Signage Trigger Quantities (Schedule 3)	1000L
Emergency Response Plan (Schedule 5)	1000L
Secondary Containment (Schedule 5)	1000L
Tracking (Schedule 26)	Not required
Restriction of Use: 77A – Application Method Restrictions	This substance must be applied by ground based methods only. This substance must be applied with a nozzle set to provide a coarse quality spray (as defined by the American Society of Agricultural and Biological Engineers ASABE Standard (S572) or the British Crop Production council guidelines)
Hazardous Substance (Hazardous Property Controls) Notice 2017	
HPC Notice Part 4 Subpart B: Use of ecotoxic substances in any place	**Variation:** The person in charge of the application and any person applying this substance must ensure the application is carried out in accordance with the following application restrictions: • the substance must not be applied at rates exceeding 1.9 kgai/ha when using ground-based boom equipment on turf or 3.84 kgai/ha when using handheld equipment • the substance must not be applied to the same area more than twice in

	any 365 day period; and • an interval of at least 90 full days must be observed before the substance is reapplied to the same area. This substance must not be applied within 50 metres of a downwind water body.
ACVM Act and Regulations	
ACVM Approval No	NA
Tolerable Exposure Level (TEL)	No TEL set
Environmental Exposure Level (EEL)	No EELs are set for Malathion-treated wheat at this time and the default EEL values are deleted

Section 16 Other Information

Glossary

Cat	Category
EC_{50}	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.
LC_{50}	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD_{50}	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices April 2022 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2020
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

The information herein is given in good faith, but no warranty, express or implied is made.

Please contact the New Zealand distributor, if further information is required.

Issue Date: 19 September July 2023 Review Date: 19 September 2028