



SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **Torero®**
Chemical name of active Ing: 4-amino-3-methyl-6-phenyl-1,2,4-triazin-5-one
Product Use: For post-emergence use in red beet, fodder beet, sugar beet and mangolds.
Restriction of Use: Refer to Section 15
New Zealand Supplier: ADAMA New Zealand Ltd
Address: Level 1/93 Bolt Road
Tahunanui, Nelson
Telephone: +64 3 543 8275
Fax Number: +64 3 543 8274

**Emergency Telephone: 0800 764 766 (National Poison Centre)
0800 734 607 (24hr Emergency Response)**

Date of SDS Preparation: 16 June 2021

Section 2. Hazards Identification

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

EPA Approval No: HSR100598

Pictograms



Signal Word: **DANGER**

GHS Classification and Category	Hazard Code	Hazard Statement
Acute inhalation toxicity Category 3	H331	Toxic if inhaled.
Specific target organ toxicity – repeated exposure Category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Hazardous to the aquatic environment chronic Category 2	H411	Toxic to aquatic life with long lasting effects.
Hazardous to soil organisms	H421	Hazardous to soil organisms.
Hazardous to terrestrial vertebrates	H433	Hazardous to terrestrial vertebrates.

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P260	Do not breathe fumes, vapours or spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.

Response Code	Response Statement
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.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Storage Code	Storage Statement
P405	Store locked up.

Disposal Code	Disposal Statement
P501	Wherever possible completely use material by using according to label instructions. Dispose of unwanted product and wastes from spillages as hazardous substances in accordance with local and national regulations using a licensed waste disposal company. Triple rinse containers and add rinsate to spray tank before puncturing and offering for recycling or landfill. Do not allow product to enter waterways. Do not burn product or container.

Section 3. Composition / Information on Ingredients

Ingredients	Wt%	CAS NUMBER.
Metamitron	30.7	41394-05-2
Ethofumsat	13.2	26225-79-6
Propane-1,2-diol	1-5	57-55-6
Organic phosphoric ester	1-<5	Proprietary
Non hazardous	To bal	-

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	Rinse cautiously with water for 15 minutes. If eye irritation persists: Get medical advice.
If on Skin	Wash with plenty of soap and water. If skin irritation occurs: get medical advice/attention.
If Swallowed	Wash out mouth thoroughly with water. Never give anything to the mouth of an unconscious person. If vomiting occurs, place victim face downwards, with the head turned to the side and lower than the hips to prevent vomit entering the lungs. Seek medical attention if needed.
If Inhaled	Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed

Symptoms:

Inhaled:	Toxic if inhaled.
Ingestion:	May be harmful if swallowed.
Skin:	Not applicable.
Chronic:	May cause damage to organs through repeated or prolonged exposure.

Section 5. Fire Fighting Measures

Hazard Type	Non Flammable.
Hazards from combustion products	Carbon oxides (CO, CO ₂) sulphur oxides (SO ₂ , SO ₃).
Suitable Extinguishing media	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Precautions for firefighters and special protective clothing	Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
HAZCHEM CODE	2X

Section 6. Accidental Release Measures

Wear full protective clothing as detailed in Section 8. Evacuate area from unnecessary personnel. Ensure sufficient supply of air. Avoid inhalation and contact with eyes or skin.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Reposition any leaking containers so as to minimise further leakage. Dam and absorb spill with an absorbent material (e.g. sand, soil, diatomaceous earth or vermiculite). Shovel the absorbed spill into drums. Decontaminate the spill area with detergent and water and rinse with the smallest volume of water practicable.

Disposal of the absorbed material will depend upon the extent of the spill. Contaminated material must be disposed of in accordance with all local authority requirements.

- For quantities up to 50 L of product bury in a secure approved landfill site.
- For quantities greater than 50 L seek advice from the manufacturer (use emergency contact number below) before attempting disposal. Contain in a secure location until disposal method is established.

Section 7. Handling and Storage**Precautions for Handling:**

- Read label before use.
- Do not breathe fumes, vapours or spray.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Ensure good ventilation.
- Prevent formation of explosive mixtures.
- Avoid release to the environment.
- When mixing or applying wear appropriate protective clothing including cotton overalls buttoned to the neck and wrist, impervious, elbow-length gloves, and eye protection. Remove protective clothing and wash hands, arms and face with soap and water before meals and after work.

Precautions for Storage:

- Store away from incompatible materials listed in Section 10.
- Keep away from children.
- Store locked up.
- Store in a well-ventilated place. Keep container tightly closed.
- Only store at temperatures from -5°C to 35°C.

- Effects with light as well as warmth.
- Store in the original, unopened container in a cool, dry place, out of direct sunlight and away from stockfeed or foodstuffs. As a Class 9 Substance with Ecotoxicity Classifications, storage of Torero® must be carried out in such a manner as to prevent contamination of waterways. It is recommended that The New Zealand Standard for the Management of Agrichemicals (NZS 8409:2004) is followed as a means of meeting the secondary containment provisions of the HSNO Emergency Management Regulations.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA		STEL	
	ppm	mg/m3	ppm	mg/m3
Propane-1,2-diol [57-55-6]				
Vapour and particulates	150	474		
Particulates only		10		

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 (WES-STEL). 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 NOV 2019 11TH EDITION.

Engineering Controls

In workplace ensure good ventilation. Wash hands thoroughly after handling.
Wash clothing before re-using.

Personal Protection Equipment



Eyes	Safety goggles or face shield.
Hands and Skin	When mixing or applying wear appropriate protective clothing including cotton overalls buttoned to the neck and wrist, impervious, elbow-length gloves, and eye protection. Remove protective clothing and wash hands, arms and face with soap and water before meals and after work.
Respiratory	For higher level protection use type N100 (US) or type P3 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards.
General	Do not eat, drink or smoke when using this product. Be careful not to contaminate yourself when removing contaminated clothing.

Section 9 Physical and Chemical Properties

Appearance	White, beige, liquid, viscous
Odour	Slightly
Odour Threshold	Not applicable
pH 1%	6,42 (CIPAC MT 75)
Boiling Point	Not applicable
Melting Point	Not applicable
Flash Point	> 104°C (DIN EN 227 19)
Flammability	Not applicable
Upper and Lower Exposure Limits	Not applicable
Vapour Pressure	Not applicable
Vapour Density (air=1)	2,3 -6 hPa (20°C)

Density (g/ml)	1,14 (20°C)
Specific Gravity	Not applicable
Solubilities	Dispersion
Partition coefficient (n-octanol/water):	log Pow 0,85 (21°C)*, log Pow 2,69 ** (OECD 107)
Auto Flammability	485° C (EEC A14, DIN 51794)
Viscosity:	134,1 mPas/20°C, 116,9 mm ² /s20°C (OECD 114)
Surface tension:	39,3 mN/m (90%, 20°C) (EEC A5)

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Conditions to Avoid	Protect from frost.
Incompatible Materials	Avoid contact with other chemicals. Avoid contact with strong oxidizing agents.
Hazardous Decomposition Products	Oxides of carbon, oxides of nitrogen & oxides of Sulphur.

Section 11 Toxicological Information

Acute Effects:

Swallowed	May be harmful if swallowed. LD50 (rat) = >2000 mg/kg
Dermal	Not triggered. LD50 (rat) > 4,000 mg/kg
Inhalation	Toxic if inhaled.
Eye	Not applicable
Skin	Not applicable

Chronic Effects:

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

Individual component information:

Acute Toxicity:

Chemical Name	Oral – LD50	Dermal – LD50	Inhalation – LC50
Metamitron (41394-05-2)	650 mg/kg (dog)	1000mg/kg (Rat)	0.206mg/l (mouse) (dust/mist)

Section 12. Ecotoxicological Information

GHS Classes

Hazard Statement

Hazardous to the aquatic environment chronic Category 2	Toxic to aquatic life with long lasting effects.
Hazardous to soil organisms	Hazardous to soil organisms.
Hazardous to terrestrial vertebrates	Hazardous to terrestrial vertebrates.

On product:

Persistence and degradability: Not readily biodegradable*

Behaviour in sewage plants: EC50 = 2188 mg/l

Toxicity to fish: LC50 141 mg/l/96h, NOEC 12,5mg/l (OECD 203)

Toxicity to daphnia: EC50 62,4 mg/l/48h, NOEC 22,3 mg/l, LOEC 40, 1 mg/l (OECD 202)

Toxicity to algae: EbC50 2,83 mg/l/72h, ErC50 6,53 mg/l/72h, NOEC 2,92 mg/l, LOEC 5,25 mg/l (OECD 201)

Common name: **Metamitron**

Mobility: Soil – Low mobility.

Persistence/degradability: Soil:

The product is non persistent

Half-life time (t_{1/2}): 30-90 days

Degradation is primarily via: microorganisms.

Water:

Hydrolytic DT50 t_{1/2}: 143 d at pH 5 (25°C)

DT50 t_{1/2}: 132 d at pH 7 (25°C)

DT50 t_{1/2}: 17.5 d at pH 9 (25°C)

Inherently degradable: > 79% in 28 days.

Water pollution class (WGK): 2 – impairment of water quality.

Ecotoxicity:

Fish:

LC50 (96 hours) = 443 mg/L; golden orfe (*Leuciscus melanotus*)

LC50 (96 hours) = 326 mg/L; rainbow trout (*Oncorhynchus mykiss*)

LC50 (96 hours) = 194 mg/L; carp (*Cyprinus carpio*)

Daphnia;

EC50 (48 hours) = 101.7 mg/L; Water flea (*Daphnia magna*)

Algae

Growth rate:

IC50 (72 hours) = 1.8 mg/L; green alga (*Selenastrum capricornutum*)

Ecotoxicity:

Birds:

Japanese quail LD50 = 1,534 mg/kg

Do not allow to enter waterways.

Section 13. Disposal Considerations

Disposal Method: Ensure container is empty. Triple rinse empty container and add rinsate to spray tank. Recycle empty container through Agrecovery (0800 247 326, www.agrecovery.co.nz). Otherwise crush or puncture and bury in a suitable landfill. DO NOT reuse this container for any other purpose.



Precautions: Do not allow product to enter waterways.

Disposal methods to avoid: Do not allow product to enter waterways.

Section 14 Transport Information

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



Road and Rail Transport

UN No: 2998

Class-primary 6.1

Packing Group III

Proper Shipping Name: Triazine Pesticide, Liquid, Toxic (Contains Metamitron)

Air Transport

UN No: 2998
 Class-primary 6.
 Packing Group III
 Proper Shipping Name: Triazine Pesticide, Liquid, Toxic (Contains Metamitron)

Marine Transport

UN No: 2998
 Class-primary 6.1
 Packing Group III
 Proper Shipping Name: Triazine Pesticide, Liquid, Toxic (Contains Metamitron)
 Marine Pollutant Yes

National Transport Regulations: Do not carry this product on a passenger service vehicle.

Section 15	Regulatory Information
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This substance is hazardous according to the *Hazardous Substances (Hazard Classification) Notice 2020*

EPA Approval Code: HSR100598

HSNO Classification:

Acute inhalation toxicity Category 3
Specific target organ toxicity – repeated exposure Category 2
Hazardous to the aquatic environment chronic Category 2
Hazardous to soil organisms
Hazardous to terrestrial vertebrates

HSW (HS) Regulations 2017	Trigger Quantity
Certified Handlers	Not required
Location Certificate	Not required
Signage Trigger Quantities (Schedule 3)	1000L (Hazardous to the aquatic environment chronic Cat. 2)
Emergency Response Plan (Schedule 5)	100L (Acute inhalation toxicity Cat. 3)
Secondary Containment (Schedule 5)	100L (Acute inhalation toxicity Cat. 3)
Tracking (Schedule 26)	Not required
Record Keeping	Records of use must be kept under certain circumstances – see The New Zealand Standards for Management of Agrichemicals (NZS8409) for details.
HSNO Additional Controls (Restrictions of use)	
77A	The method of application of the substance shall be limited to ground based application only.
Hazardous Property Controls Notice 2017	
HPC Notice Part 2	Certain substances restricted to workplaces only.
HPC Notice Part 3	Hazardous substances in a place other than a workplace.
HPC Notice Part 4 Subpart A	Substances that are hazardous to the environment: Site and storage controls.
HPC Notice Part 4 Subpart B	Use of substances that are hazardous to the environment.
HPC Notice Part 4 Clause 47	Equipment for environmentally hazardous substances must be appropriate.
HPC Notice Part 4 Clause 50	The maximum application rate for Torero® shall be 2 L/ha (0.3078 kg ethofumesate/ha and 0.7142 kg metamitron/ha), with a maximum application frequency of 3 applications per season and a minimum application interval of 5 days.
HPC Notice Part 4 Clause 52	Agrichemicals that are hazardous to the aquatic

	environment must not be applied to water.
HPC Notice Part 4 Subpart C	Qualifications required for the application of substances that are hazardous to the environment.
For all further controls:	Refer to EPA website www.epa.govt.nz for controls document - HSR100598
ACVM Act and Regulations	
ACVM Approval No	P9879
See www.foodsafety.govt.nz for registration conditions.	

Section 16 Other Information

Glossary

ACVM	Agricultural Compounds and Veterinary Medicines Act 1997.
EC50	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority.
HSNO	Hazardous Substances and New Organisms Act 1996.
HSW	Health and Safety at Work Act 2015.
HSW (HS) Regulations	Health and Safety at Work (Hazardous Substances) Regulations 2017.
LC50	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD50	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 2020
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer:

This document has been issued by Adama New Zealand Ltd and serves as their Safety Data Sheet ('SDS'). It is based on information concerning the product which is held by Adama New Zealand Ltd or has been obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. While Adama New Zealand Ltd have taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Adama New Zealand Ltd accept no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS. The information herein is given in good faith, but no warranty, express or implied is made.

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