SAFETY DATA SHEET
TYLLANEX 500 SC

Section 1: Identification of the Substance and Supplier

Product name :	**TYLLANEX 500 SC**
Chemical name of active Ingredient(s):	N^2-tert-butyl-6-chloro-N^4-rthyl-1,3,5-triazine-2,4-diamine
Supplier:	ADAMA New Zealand Limited Level1/19 Elms Street, Wakatu Estate, Stoke, Nelson, New Zealand P.O.Box 1799, Nelson New Zealand.
Telephone	+64 3 5438275 Fax: +64 3 5438274
Emergency Telephone:	**0800 POISON (0800 764 766)**

Section 2: Hazards Identification

Hazard Classifications: 6.1D, 6.9B, 9.1A, 9.2A, 9.3C

Most important hazards:
TOXICITY
Warning - May be harmful if swallowed, inhaled or absorbed through the skin.
May cause organ damage from repeated oral exposure at high doses
Avoid contact with skin and inhalation of spray mist.

ECOTOXICITY
Very toxic to aquatic organisms. Avoid contamination of any water supply with product or empty container.
Very toxic in the soil environment.

Section 3. Composition/Information on Ingredients

Substance/preparation Preparation

Information on hazardous ingredients *

Common name	CAS No.	%	EC Number	Symbol	R-Phrases
Terbuthylazine	5915-41-3	44-48	227-637-9	Not classified	----------
Ethylene glycol	107-21-1	to 100			

- ***Occupational Exposure Limit(s), if available, are listed in section 8***

Section 4: First-Aid Measures

Effects and symptoms:

First-aid measures:	Remove victim from area of exposure. Wash off remaining material with plenty of water.
Inhalation:	Remove victim to fresh air. If breathing is difficult: artificial respiration. Get medical attention.
Ingestion:	Wash out mouth with plenty of water. Get medical attention. Never give anything by mouth to an unconscious person.
Skin contact:	Remove contaminated clothing. Wash away remainder with water and soap.
Eye contact:	Wash out with plenty of water with the eyelid held wide open for at least 15 minutes. Get medical attention.
Notes to a physician:	There is no specific antidote. Treat symptomatically and give supportive therapy.

Protection of first-aiders: Use appropriate protection (see section 8).

Section 5: Fire-Fighting Measures

Extinguishing media
Suitable: Dry chemical, water spray, foam, carbon dioxide.
Hazardous thermal (de)composition products: Chloride compounds and nitrogen oxides
Protection of fire-fighters: Self-contained breathing apparatus and total protection required in enclosed areas.

Section 6: Accidental Release Measures

Personal precautions: Wear suitable protective clothing.
Environmental precautions: Do not discharge into drains or the environment.
Methods for cleaning up: Absorb remainder in sand or other inert material. Dispose of in an authorised waste collecting point.

Section 7: Handling and Storage

Handling: Ventilation required.
Storage: 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 Tyllanex Herbicide 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 (NZ8409) is followed as a means of meeting the secondary containment provisions of the HSNO Emergency Management Regulations.

Packaging materials suitable: High density polyethylene extrusion blow containers.

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Section 8: Exposure Controls/Personal Protection

Engineering measures: Ventilation required.
Hygiene measures: When handling do not eat, drink or smoke. Wash hands thoroughly after handling. Wash clothing separately before re-use.

Occupational Exposure Limits
Common name: **Terbuthylazine**
Not Established

Personal protective equipment:
Respiratory system: Respiratory protection is not required if good ventilation is maintained.
Skin and body: Wear suitable protective clothing.
Hands: Chemical resistant gloves.
Eyes: Safety goggles or face shield.

Section 9: Physical and Chemical Properties

Physical state: Liquid
Colour: Whitish
Odour: Faint odour
Boiling point: 100^{o}C (Water)
Density: 1.09 $\pm$ 0.02 g/mL @ 20^{o}C
Vapour pressure: 0.15 mPa @ 20^{o}C (Terbuthylazine)
Solubility in water: 8.5 ppm @ 20^{o}C (Terbuthylazine)
Octanol/water partition coefficient log = 3.21 (Terbuthylazine)

pH:	6 - 8 CIPAC, MT 75
Flammability:	Not flammable
Explosion properties:	Not Explosive
Oxidation properties:	Not oxidizing

Section 10: Stability and Reactivity

Stability:	Not subject to polymerization.
Materials to avoid:	Oxidizing agents, acids and alkali.
Hazardous reactions :	None
Hazardous decomposition products:	Chloride compounds and nitrogen oxides.

Section 11. Toxicological Information

Acute toxicity - Oral:	LD_{50} (rat)= 1,189 mg/kg
Acute toxicity - Dermal:	LD_{50} (rat) > 2,000 mg/kg
Acute toxicity – Inhalation:	LC_{50} (rat) > 5.76 mg/L (4 hours)
Skin irritation:	Not irritating (rabbit).
Eye irritation:	Not irritating (rabbit).
Sensitization :	Non sensitizer (guinea-pig)
Common name:	**Terbuthylazine**
Chronic toxicity:	NOAEL (rat): = 0.35 mg/kg/day (1 generation) NOAEL (mouse) = 16.8 mg/kg/day (2 years) NOEL (dog) = 0.4 mg/kg/day (1 year)
Carcinogenicity:	EPA : Group D EU : Not classified IARC : Not classified
Mutagenicity:	Not mutagenic

Section 12: Ecological Information

Ecotoxicity:

Fish
LC_{50} (96 hours) Zebra fish (branchydanio rerio) = 16.141 mg/L

Daphnia similis
EC_{50} (48 hours) = 190 mg/L

Algae (selenastrum capricornutun)
EC_{50} (96 hours) = 0.0314 mg/L

Birds
Japanese quail (coturnix conturnix japonica) LD_{50} > 2,000 mg/kg

Bees (apis metifera)
Contact LD_{50} (24 hours) > 100 µg/bee

Common name: **Terbuthylazine**

Mobility:
Soil – Low mobility
K_{oc} = 162 – 278 mL/g
K_d = 2.5 – 25 mL/g

Persistence/degradability:

Soil
The product is persistent to some extent.
Absorbed on organic matter and clay.
Half-life time (t½): 30-60 days
Degradation is primarily via: microorganisms.

Water
DT_{50} (pH 5) = 86 days
DT_{50} (natural water) = 25 days

Bioaccumulative potential: Low bioaccumulation potential

Ecotoxicity:

Fish

LC_{50} (96 hours)	rainbow trout (oncorhynchus mykiss)	= 3.8 – 4.6 mg/L
	Lepomis macrochirus	= 52 mg/L
	ictalurus ameirus, carp	= 7 mg/L
NOEC (7 days)	branchydanio rerio	= 1 mg/L

Daphnia magna

EC_{50} (48 hours) = 21.2 mg/L

Algae (scenedesmus subspicatus)

EC_{50} (72 hours) = 0.016 mg/L

Birds

Mallard Duck (anas platyrhynchos)	LD_{50} > 1,000 mg/kg
	LC_{50} (8 day feeding > 5,620 ppm
Bobwhite quail (colinus virginianus)	LD_{50} >1,000 mg/kg
	LC_{50} (8 day feeding) > 5,620 ppm

Bees

Oral & Contact LD_{50} > 100 μg/bee

Toxic to aquatic organisms. Low toxicity: birds, Non toxic: Bees

Section 13: Disposal Considerations

Methods of disposal: Container Disposal - Triple rinse empty container and add rinsate to spray tank. Burn in an appropriate incinerator, if circumstances such as wind direction permit. Otherwise crush or puncture and bury in a suitable landfill, or if appropriate, recycle. Avoid contamination of any water supply with product or empty container. .

Section 14: Transport Information

UN Number	3082
Proper shipping name	Environmentally hazardous substance, Liquid, N.O.S, Terbuthylazine
DG Class	9
Packing Group	III
Hazchem Code	2X
Marine Pollutant	Yes
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National transport regulations: Do not carry this product on a passenger service vehicle.

Segregation: Check the land transport Rule Dangerous Goods 1999, Rule 45001 for additional information. Sea transport may require additional segregation. Refer: NZS5433; Sea Segregation, or the International Maritime Dangerous Goods Code for details.

Section 15: Regulatory Information

New Zealand Regulatory Information:

NZFSA Approval: Registered pursuant to the ACVM Act 1997. No P7258
See www.nzfsa.govt.nz/acvm for registration conditions.

Approved pursuant to the HSNO Act 1996, Approval No. HSR000393
See www.ermanz.govt.nz for registration conditions

HSNO Classifications: 6.1D, 6.9B, 9.1A, 9.2A, 9.3C

ECOTOXIC

APPROVED HANDLER: This product must be under the care of an approved handler when it is applied in a wide dispersive manner or used by a commercial contractor.

RECORD KEEPING: Records of use must be kept under certain circumstances – see The New Zealand Standards for Management of Agrichemicals (NZS8409) for details.

Section 16: Other Information

Note: This product is a registered agricultural chemical and must be therefore be used in accordance with the container label directions. A comprehensive package of toxicological and environmental data for the active ingredients of this product has been submitted to the Government health and environment authorities and has been evaluated by expert toxicologists and environmental scientists.

The information contained in the Safety Data sheet is correct to the best of our knowledge at the date of issue. It is intended as a guide for the safe use, handling, disposal, storage and transportation and is not intended as a warranty or as a specification. The information relates only to the product specified and may not be suitable for combinations with other materials or in processes other than those specifically described herein.

HISTORY

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