SAFETY DATA SHEET
BATALLION 350 SC HERBICIDE
Conforms to 2001/58/EC and ISO 11014-1

Section 1: Identification of the Substance and Supplier

Product name:	**BATALLION 350 SC**
Chemical name of active	Terbutryn: N^2-tert-butyl-N^4-methylthio-1,3,5-triazine-2,4-diamine Terbuthylazine: N^2-tert-butyl-6-chloro-N^4-ethyl-1,3,5-triazine-2,4-diamine
Ingredient(s):	
Supplier:	ADAMA New Zealand Limited 5 Putaitai Street, Stoke, Nelson, New Zealand P.O.Box 1799, Nelson New Zealand.
Telephone	+64 3 543 8275 Fax: +64 3 543 8274
Emergency Telephone:	**0800 POISON (0800 764 766)**

Section 2: Hazards Identification

Hazard Classifications: 6.1D, 6.3B, 6.7B, 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 mild skin irritation.
Suspected of causing cancer.
May cause organ damage from repeated oral exposure at high doses.

Avoid skin contact 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. Harmful to terrestrial vertebrates.

Section 3. Composition/information on Ingredients

Substance/preparation Preparation

Information on hazardous ingredients *

Common name	CAS No.	%	EC Number	Symbol	R-Phrases
Terbutryn	886-50-0	31-34	212-950-5	Not classified	-
Terbuthylazine	5915-41-3	13-15	227-637-9	Not Classified	-
Ethylene Glycol	107-21-1	4-5	203-473-3	Xn	R22

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

Section 4: First-Aid Measures

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:	If swallowed, do NOT induce vomiting. 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, nitrogen oxides and Sulfur 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 Keep only in original container. Keep in a cool, well ventilated place away from direct sunlight.

Packaging materials: 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: **Terbutryn**
Not Established
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. Chemical resistant boots.
Hands: Chemical resistant gloves.
Eyes: Safety goggles or face shield.

Section 9: Physical and Chemical Properties

Physical state: Liquid
Colour: White
Odour: Faint odour
Boiling point: 100^{o}C (Water)
Density: 1.080 ± 0.015 g/mL @ 20^{o}C
Vapour pressure: 0.23 mPa @ 25^{o}C (Terbutryn)
0.15 mPm @ 25^{o}C (Terbuthylazine)
Solubility in water: 22 ppm @ 20^{o}C (Terbutryn)
8.5 ppm @ 20^{o}C (Terbuthylazine)
Octanol/water partition Coefficient log = 3.65 (Terbutryn)
log = 3.04 (Terbuthylazine)
pH: 7 – 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, nitrogen oxides and Sulfur oxides

Section 11. Toxicological Information

Acute toxicity - Oral: LD_{50} (rat) = 1,475 mg/kg
Acute toxicity - Dermal: LD_{50} (rat) > 2,000 mg/kg
Acute toxicity – Inhalation: LC_{50} (rat) > 5.11 mg/L (4 hours)
Skin irritation: Mildly irritating (rabbit).
Eye irritation: Not irritating (rabbit).
Sensitization : Weak sensitizer (guinea-pig)

Common name: **Terbutryn**
Chronic toxicity: NOAEL (rat): = 300 ppm (2 years)
NOEL (mice) = 3,000 ppm (2 years)
NOEL (dog) = 100 mg/kg/day (1 year)
Carcinogenicity: EPA : Group C
EU : Not classified
IARC : Not classified
Mutagenicity: Not mutagenic
Common name: **Terbuthylazine**
Chronic toxicity: NOAEL (rat): = 0.35 mg/kg/day (1 generation)
NOEL (mice) = 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

Preparation:
Common name: **Terbutryn**
Mobility: Soil – low mobility.
Adsorbed on organic matter and clay.
K_{oc} = 2000 mL/g.
Persistence/degradability: **Soil**
The product is not persistent.
Half-life time (t½): 14-50 days
Degradation is primarily via: microorganisms.
Water
Degradation is primarily via: microorganisms, photolysis.
Adsorbs strongly to sediment.
Ecotoxicity: **Fish**

LC_{50} (96 hours)	rainbow trout (oncorhynchus mykiss)	= 1.1 mg/L
	bluegill sunfish (lepomis macrochirus)	= 1.3 mg/L
	carp (cyprinius caprio)	= 1.4 mg/L

Daphnia magna
EC_{50} (48 hours) = 2.66 mg/L

Aglae (selenastrum capricorntun)
EC_{50} (7 days) = 0.013 mg/L
Birds

Bobwhite quail LC_{50} = 5,000 ppm (5 day feeding)
Mallard duck LC_{50} > 4,640 mg/kg

Bees
Oral LD_{50} > 225 µg/bee
Contact LD_{50} > 100 µg/bee
Toxic to aquatic organisms. Low toxicity: birds Non toxic: bees

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.
Adsorbed 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
	bluegill sunfish (lepomis macrochirus)	= 52 mg/L
	catfish (icatalurus ameirus) carp	= 7 mg/L
NOEC (7 days)	Zebra fish (branchydanio rerio)	= 1 mg/L

Section 13: Disposal Considerations

Methods of disposal: Triple rinse container and add residue to spray tank. Recycle empty container, otherwise crush and bury in a suitable landfill.

Section 14: Transport Information

UN Number	3082
Proper shipping name	Environmentally hazardous substance, Liquid, N.O.S, Terbutryn
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 P7244
See www.nzfsa.govt.nz/acvm for registration conditions.

Approved pursuant to the HSNO Act 1996, Approval No. HSR000469
See www.ermanz.govt.nz for registration conditions

HSNO Classifications: 6.1D, 6.3B, 6.7B, 6.9B, 9.1A, 9.2A, 9.3C
The Class's 9.1A and 9.2A require that an ERMA Approved Handler is required when Batallion is applied in a wide dispersive manner or is used by a commercial contractor or is applied directly onto or into water bodies.

9.1A, 9.2A
Ecotoxic

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.

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HISTORY

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