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1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY:

PRODUCT NAME: **TOPSIN M-4A**
 MANUFACTURER: Lonza NZ Ltd
 SUPPLIER NAME: Lonza NZ Ltd
 SUPPLIER ADDRESS: 13-15 Hudson Rd, Bell Block, New Plymouth, New Zealand
 SUPPLIER PHONE: +64 6 7559234 SUPPLIER FAX: +64 6 7551174
 EMERGENCY PHONE: 0800 243 622, 0800 CHEMCALL INTERNATIONAL EMERGENCY PHONE: +64 4 917 9888
 CHEMICAL FAMILY: Benzimidazole precursor USE: Systemic fungicide

2. HAZARDS IDENTIFICATION:

6.1D; Harmful - may be harmful if swallowed, inhaled or absorbed through the skin.
 6.5B; Harmful - may cause skin sensitization from prolonged skin contact. Avoid skin contact.
 6.6B; Harmful - suspected of causing genetic defects.
 9.1A; Very toxic to aquatic organisms with long-lasting effects.
 9.2B; Toxic to the soil environment.
 Refer to Section 15 for NZ EPA Requirements.

3. COMPOSITION / INFORMATION ON INGREDIENTS:

COMMON NAME:	CAS NUMBER:	CONCENTRATION %:	HAZARD CLASSIFICATIONS:
- Thiophanate methyl	23564-05-8	35	
- Inerts		< 5	
- Surfactants (proprietary)		< 5	
- Water		Balance	

4. FIRST - AID MEASURES:

EYE CONTACT: Immediately flush with flowing water for at least 15 minutes. Seek medical attention if irritation occurs or persists.
 SKIN CONTACT: Immediately flush with plenty of water while removing contaminated clothing. DO NOT scrub the skin. Continue for at least 15 minutes. Wash clothing before reuse.
 INHALATION: If ill-effects occur, move the victim to fresh air. If effects persist, consult a doctor.
 INGESTION: If swallowed, rinse mouth with water immediately. DO NOT induce vomiting. Seek medical attention.
 NOTES TO DOCTOR: No specific antidote. Treat symptomatically. Antihistamines or steroid creams have been effective in treatment of skin.

5. FIRE FIGHTING MEASURES:

FLASHPOINT: Not applicable. HAZCHEM CODE: 2X
 FLAMMABLE LIMITS: Not applicable.
 EXTINGUISHING MEDIA: Water spray (fog), foam.
 THERMAL DECOMPOSITION PRODUCTS: Includes oxides of carbon and nitrogen.
 SPECIAL FIRE FIGHTING METHODS: Addition of water may cause excessive foaming. Vapours may be toxic. Self contained breathing apparatus required. Do not allow contaminated runoff to enter drains.
 UNUSUAL FIRE OR EXPLOSION HAZARDS: None.

6. ACCIDENTAL RELEASE MEASURES:

Use appropriate protective equipment. Clear area of unnecessary personnel. Spills may be slippery and should be cleaned up immediately. Large spill: Dike and pump as much as possible to a salvage container. Absorb the remaining liquid and any small spills with clay granules, sand or other absorbent material and sweep to a waste container. Cover the spill area with water and absorb. Minimise runoff into waterways or drains.
 Warning this substance is very toxic to aquatic organisms. Avoid contamination of any water supply with this substance or empty container.

7. HANDLING AND STORAGE:

Harmful - Keep out of reach of children.
 Store in original container, tightly closed and under lock and key, away from food, food related materials, animal feedstuffs, seed or fertilizer.
 Wear eye protection. Impervious gloves should be worn at all times.
 Wear other personal protective equipment appropriate to the situation when handling product. Wash protective clothing daily after work.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION:

EXPOSURE LIMITS: No exposure limits (WES, TEL, or EELs) have been specifically assigned for this product.
 EYE PROTECTION: Chemical goggles or face shield where splash may occur.
 RESPIRATORY PROTECTION: Air respirator with organic vapour canister or self contained breathing apparatus when exposed to vapours from heated material.
 PROTECTIVE CLOTHING: PVC-coated gloves. Avoid skin contact. Wear other protective clothing such as overalls, hat and boots when using. Wash protective clothing daily after work.
 VENTILATION: General (mechanical) room ventilation is considered satisfactory.
 HYGIENE PRECAUTIONS: Do not eat drink or smoke while working with this product. Remove clothing that becomes soaked or contaminated and wash before reuse. Wash hands before breaks and after work. The use of a skin barrier cream is useful to give additional skin protection.

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9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE / STATE / ODOUR: White - cream suspension concentrate.
BOILING POINT: Not available. pH: 6.5
DENSITY: 1.148 SETTING POINT: Not available.
DECOMPOSITION TEMP: Not available. AUTOIGNITION TEMP: Not applicable.
FLASHPOINT: Not applicable. VAPOUR DENSITY: Not available.
EXPLOSION PROPERTIES: Not applicable. VAPOUR PRESSURE: V.p. 0.0095 mPa (25 °C)
SOLUBILITY: Dispersible in water.
OTHER DATA:
OCTANOL / WATER PARTITION COEFFICIENT: Not available

10. STABILITY AND REACTIVITY:

CONDITIONS TO AVOID: None.
MATERIALS TO AVOID: None.
HAZARDOUS DECOMPOSITION: None.

11. TOXICOLOGICAL INFORMATION:

ACUTE ORAL: Oral Acute oral LD50 for male rats 7500 mg/kg, female rats 6640 mg/kg bw. (Thiophanate methyl)
ACUTE DERMAL: LD50 (dermal) - >10 000 mg/kg bw (rabbits). (Thiophanate methyl)
ACUTE INHALATION: Inhalation LC50 (4 h) for rats 1.7 mg/l air. (Thiophanate methyl)
OTHER TOXICITY INFORMATION:
Harmful - may be harmful if swallowed, inhaled or absorbed through the skin.
Harmful - may cause skin sensitization from prolonged skin contact. Avoid skin contact.
Harmful - suspected of causing genetic defects.
ENVIRONMENTAL FATE: In rats, following oral administration, 61% is excreted in the urine and 35% in the faeces within 90 minutes after the last dose. Metabolism involves cyclisation to carbendazim (q.v.). The principal metabolite in rats is methyl 5-hydroxybenzimidazol-2-carbamate.

12. ECOLOGICAL INFORMATION:

Aquatic Toxicity: LC50 (48h) rainbow trout; 7.8 mg/L (Thiophanate methyl).
Terrestrial Vertebrates - Birds: LD50 Japanese quail; >5000 mg/kg (Thiophanate methyl).

Very Toxic to fish/aquatic organisms with long lasting effects. Avoid contamination of any water supply with this product or empty container.

Toxic to the soil environment.

ENVIRONMENTAL FATE: In plants, cyclisation occurs, leading to the formation of carbendazim (q.v.). Soil/Environment Soil persistence is c. 3-4 weeks. In soil, in aqueous solution, and under the influence of u.v. light, cyclisation occurs, leading to the formation of carbendazim (q.v.). This then undergoes degradation to 2-aminobenzimidazole and 5-hydroxy-2-aminobenzimidazole. Soil adsorption Kd 1.2.

13. DISPOSAL CONSIDERATIONS:

Triple rinse empty container and add rinsate to the spray tank. If recycling, discard cap and deliver clean container to an Agrecovery depot. Alternatively crush and bury in a approved landfill.
Dispose of product only by using according to this label, or at an approved disposal facility.
Avoid contamination of any water supply or stream with product or empty container.

14. TRANSPORT INFORMATION:

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (Thiophanate methyl)
UN Number: 3082 UN Hazard Class: 9
Packing Group: III Hazchem Code: 2X
Additional Information: Do not carry more than 1 litre of this product on a passenger service vehicle

15. REGULATORY INFORMATION:

APPROVED HANDLER: The product must be under the personal control of an approved handler when:

- the product is applied in a wide dispersive manner; or
- used by a commercial contractor.

However, it may be handled by a person who is not an approved handler if:

- an approved handler is present at the facility where the substance is being handled; and
- the approved handler has provided guidance to the person in respect to the handling of the product; and
- the approved handler is available at all times to provide assistance if necessary.

This product shall NOT be applied onto or into water.

RECORD KEEPING: A written record of use is required if 3 kg or more of this product is used within 24 hours in a place where:

- public may lawfully be present; or
- the substance is likely to enter air or water supply and leave the place where it is under control.

The information must be kept for a minimum of three [3] years.

Approved pursuant to the HSNO Act 1996. NZ EPA Approval Code: HSR000486 See <www.epa.govt.nz> for controls.
Registered pursuant to the ACVM Act 1997. ACVM Pesticide No: P002893 See <www.nzfsa.govt.nz> for registration conditions.

16. OTHER INFORMATION:

The data given here is based on current knowledge and experience. The purpose of this safety data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties.