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

PRODUCT NAME: **TOKUTHION**
 MANUFACTURER: Arysta LifeScience
 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: Organophosphorous derivative USE: Insecticide

2. HAZARDS IDENTIFICATION:

3.1C; Warning - Flammable Liquid and Vapour.
 6.1D; Harmful - may be harmful if swallowed, inhaled or absorbed through the skin.
 6.3A; Harmful - may cause skin irritation. Avoid contact with skin.
 6.4A; Harmful - may cause eye irritation. Avoid contact with eyes.
 6.5B; Harmful - may cause skin sensitisation from prolonged skin contact. Avoid skin contact.
 6.9A; Toxic - may cause organ damage from repeated oral exposure at high doses.
 9.1A; Very toxic to fish/aquatic organisms with long-lasting effects.
 9.3B; Toxic to terrestrial vertebrates [birds].
 9.4B; Toxic to terrestrial invertebrates [bees].
 Refer to Section 15 for NZ EPA Requirements.

3. COMPOSITION / INFORMATION ON INGREDIENTS:

COMMON NAME:	CAS NUMBER:	CONCENTRATION %:	HAZARD CLASSIFICATIONS:
Inerts		Balance	
Prothiofos	34643-46-4	500g/L	
Xylene	1330-20-7	400 g/l	
n-Butanol	71-36-3	17g/L	

4. FIRST - AID MEASURES:

EYE CONTACT: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until the product is removed, while holding the eyelid(s) open. Obtain medical attention immediately. Take especial care if contact lenses are worn.
 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 inhaled, move the victim to fresh air immediately. Begin artificial respiration if breathing has stopped. Use mouth to nose rather than mouth to mouth. Obtain medical attention.
 INGESTION: If swallowed, rinse mouth with water immediately. DO NOT induce vomiting. Seek medical attention. Contact the National Poisons Centre 0800 POISON [0800 764 766]
 NOTES TO DOCTOR: Cholinesterase inhibitor. Atropine tablets 0.6mg and activated charcoal (for swallowing cases)

5. FIRE FIGHTING MEASURES:

FLASHPOINT: 31.2 °C HAZCHEM CODE: 3Y
 FLAMMABLE LIMITS: Upper - 6%; Lower - 1.1%
 EXTINGUISHING MEDIA: Alcohol resistant foam, Foam, Carbon dioxide, Dry chemical or Water spray (fog).
 THERMAL DECOMPOSITION PRODUCTS: Hydrogen Chloride, Oxides of Carbon, Sulphur & Phosphorous may be formed.
 SPECIAL FIRE FIGHTING METHODS: Vapours may be toxic. Self contained breathing apparatus required. Do not allow contaminated run-off to enter drains.
 UNUSUAL FIRE OR EXPLOSION HAZARDS: Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances.

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. It may be disposed of as an industrial waste in a manner acceptable to good waste management practice in a land fill and in compliance with all regulations.

7. HANDLING AND STORAGE:

Harmful - Keep out of reach of children.
 This product triggers specific handling and storage requirements for Class 3.1 C, as detailed in the Hazardous Substances [Classes 1 to 5 Controls] Regulations 2001.
 Store in a well ventilated place in original containers. Keep from extreme heat and open flames. Make sure the material does not come into contact with foodstuffs or fodder.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION:

EXPOSURE LIMITS: WES set for Xylene [CAS 1330-20-7]; - 8h TWA (vapour & particulates): 350 mg/m³, - 15 min STEL 655 mg/m³. n-Butanol CAS 71-36-3]: - 8h TWA (vapour & particulates): 152 mg/m³, - 15 min STEL Peak
 EYE PROTECTION: Chemical goggles or face shield when handling or using this product.
 RESPIRATORY PROTECTION: Avoid breathing in vapours or aerosol from the product. Use an appropriate respirator if exposed to the vapours or aerosol from the product.
 For short term exposure to mists and aerosols use a mask and filter eg. Filter A-P2 or a filter canister for organic vapours.
 PROTECTIVE CLOTHING: Wear chemical resistant protective clothing: gloves, waterproof hat, coat and trousers (worn outside rubber boots) when using. Wash protective clothing daily after work.
 VENTILATION: Transfer or mix with adequate ventilation.

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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.

9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE / STATE / ODOUR: Clear brown liquid, characteristic xylene odour.
BOILING POINT: 138 - 142 °C @ 100kpa [xylene] pH: 5 - 6
DENSITY: 1.07 SETTING POINT: Not available
DECOMPOSITION TEMP: Not available AUTOIGNITION TEMP: 500 °C [xylene]
FLASHPOINT: 31 °C VAPOUR DENSITY: 3.7 [xylene]
EXPLOSION PROPERTIES: Not available VAPOUR PRESSURE: 1kpa @ 20°C [xylene]
SOLUBILITY: Emulsifies in water
OTHER DATA:
OCTANOL / WATER PARTITION COEFFICIENT: Xylene: 3.12 - 3.20; Prothiofos: 5.67 (log P octanol/water)

10. STABILITY AND REACTIVITY:

CONDITIONS TO AVOID: Keep away from sources of sparks or ignition.
MATERIALS TO AVOID: Strong acids, strong bases, oxidising agents
HAZARDOUS DECOMPOSITION: Hydrogen Chloride, Oxides of Carbon, Sulphur & Phosphorous may be formed.

11. TOXICOLOGICAL INFORMATION:

ACUTE ORAL: LD50 Rats: 1800 mg/Kg
ACUTE DERMAL: LD50 Rats: 5000 mg/Kg
ACUTE INHALATION: LD50 Rats: >2.7 mg/Kg [4hr - aerosol] prothiofos
OTHER TOXICITY INFORMATION:

The main health effects from repeated exposure is cholinesterase inhibition. Repeated overexposure to xylene may cause liver and kidney damage. Xylene is not mutagenic, not carcinogenic and does not impair fertility.

12. ECOLOGICAL INFORMATION:

Aquatic Toxicity: LC50 (96h) rainbow trout; 0.7 mg/L (Prothiofos).
LC50 Daphnia; 0.014 mg/L (Prothiofos).
Terrestrial Vertebrates - Birds: LD50 J quail; 100-200 mg/kg (Prothiofos).
This product is very toxic to aquatic organisms. This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.
Toxic to bees - Spray must not be applied to plants in flower, or are likely to flower within 7 days, if they are likely to be visited by bees.

13. DISPOSAL CONSIDERATIONS:

Dispose of this product only by using according to the label. Triple rinse container and add rinsate to spray tank. Crush or puncture cleaned, empty containers and dispose of container at an approved landfill. Avoid contamination of any water supply or stream with this product or empty container.

14. TRANSPORT INFORMATION:

Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. (Prothiofos & Xylene) UN Hazard Class: 3
UN Number: 1993 Packing Group: III
Hazchem Code: 3Y
Additional Information: Do not carry more than 1 L of this product on a passenger service vehicle.
This product requires segregation from certain other Classes of Dangerous Goods. Check the latest LTSA DG Rule 45001 for additional information.

15. REGULATORY INFORMATION:

APPROVED HANDLER: The product must be under the personal control of an approved handler when:
a) the product is applied in a wide dispersive manner; or
b) used by a commercial contractor.

This product must not be applied to plants in flower, or are likely to flower within seven [7] days, if they are likely to be visited by bees.

RESTRICTED ENTRY INTERVAL: 48 hours. The person in charge of the application area shall ensure that no person who is authorised to be there enters the application area until the end of the REI. However, a person may enter the application area before the end of the REI—

(a) if PPE and RPE is worn as if that person is applying the substance; and
(b) if entering an indoor treated area, for the purpose of carrying out tasks associated with ventilation of the building or structure.

RECORD KEEPING: A written record of each application or discharge must be kept where -

a) members of the public may lawfully be present; or
b) the substance is likely to enter the air or water supply and leave the area where it is under control.

The information must include measures taken to ensure that there are no adverse effects beyond the boundary of the subject property into an adjoining property or sensitive area. Records must be kept for a minimum of three [3] years.

Approved pursuant to the HSNO Act 1996. NZ EPA Approval Code: HSR000200 See <www.epa.govt.nz> for controls.
Registered pursuant to the ACVM Act 1997. ACVM Pesticide No: P002731 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.