

Date of Issue: 11th August 2008

Page 1 of 7

Date of previous issue: 29th November 2005

1. Identification of the Substance/Mixture and Supplier.

Product name:	Tokuthion
Other names:	Tokuthion 500EC
Recommended Use:	Insecticide for control of mealy bug, woolly aphid and scale in apples, mealy bug and scale in pears and mealy bug in grapes.
Company details:	Bayer New Zealand Limited, 3 Argus Place, Hillcrest North Shore 0627 New Zealand.
Telephone:	0800 428 246
Facsimile:	09 441 8645
Emergency telephone:	0800 734 607 Orica SH&E Shared services (24hr)

2. Hazards Identification.

Hazard classification:	Classified as hazardous according to the criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.
Classification and type:	HSNO Class[†] 3.1C, 6.1D, 6.3A, 6.4A, 6.5B, 6.9A, 9.1A, 9.3B, 9.4B Flammable liquid and vapour – keep away from naked flame. May be harmful if swallowed. Harmful – may cause skin irritation. Harmful – may cause eye irritation. Harmful – may cause sensitization from prolonged skin contact. Toxic – presumed to/may cause target organ damage from repeated oral exposure at high doses. Toxic to aquatic organisms. Toxic to terrestrial vertebrates. Toxic to terrestrial invertebrates.
Risk & Safety Phrases:	R20/21/22, R36/38, R48, R50,

3. Composition/Information on Ingredients.

Common name: Prothiofos

Chemical Identity of Ingredients:

Mixture:

Ingredient	CAS No.	Content (%w/v)
Prothiofos	34643-46-4	50.0%
Xylene	1330-20-7	40.0%
n-Butanol	71-36-3	1.7%
Other ingredients, mostly emulsifiers	(non hazardous)	15.3%

Date of Issue: 11th August 2008

Page 2 of 7

Date of previous issue: 29th November 2005**4. FIRST Aid Measures:**

Description of necessary first aid measures:	In case of poisoning by any exposure route contact the National Poisons and Hazardous Chemicals Information Centre, PO Box 913, Dunedin. Phone 0800 764 766, 0800 POISON.
Workplace facilities:	No specific facilities required. Standard emergency equipment must be available.
Hygiene Practices:	Avoid contact with skin and eyes and inhalation of concentration or spray mist. When mixing or applying, wear protective clothing, including face shield, impervious gloves and footwear. If clothing becomes contaminated with product, remove clothing immediately. DO NOT eat, drink or smoke while using. Wash hands and exposed skin thoroughly with soap and water before meals and after work. Wash protective clothing daily after work.
Ingestion:	Wash out mouth with water. Do NOT induce vomiting. Give a glass of water. Keep patient at rest and seek medical advice. If advised by doctor, atropine tablets or activated charcoal may be administered. DO NOT attempt to give anything by mouth to a semi-conscious or unconscious person.
Eye:	If product gets in eyes wash it out immediately with water for at least 15 minutes and consult a doctor.
Skin:	If skin contact occurs remove contaminated clothing and wash affected areas thoroughly with soap and water. If symptoms persist, call a doctor.
Inhaled:	In case of inhalation, remove the victim from contaminated atmosphere without exposing yourself. If there is a breathing problem give oxygen.
Medical attention:	Tokuthion contains prothiofos which is an organophosphorus compound, and as such it is a cholinesterase inhibitor. It also contains xylene as the solvent. <u>Symptoms of poisoning:</u> Mild intoxication causes headache, blurred vision, weakness, sweating, mild chest pain, nausea and vomiting. Severe intoxication causes cyanosis (blueness of the skin, as from lack of oxygen), muscular twitching, spasms, miosis (pinpoint pupils) and respiratory paralysis. The product will irritate the skin and eyes. <u>Treatment</u> Basic aid, decontamination, symptomatic treatment and if necessary administration of antidote. Antidote: Atropine sulphate, possibly in conjunction with

Date of Issue: 11th August 2008

Page 3 of 7

Date of previous issue: 29th November 2005

toxogonin or obidoxime (PAM). As this product contains the hydrocarbon liquid, xylene, care should be taken to prevent pulmonary aspiration. Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause bronchopneumonia or pulmonary oedema. Monitor respiratory, cardiac and central nervous system function. Monitor red blood cell and plasma cholinesterase levels. Administer oxygen if necessary. Watch for pulmonary oedema and delayed neurological symptoms.

Contraindications: Adrenergic derivatives.

5. Fire-Fighting Measures.

Fire Hazard Properties:	In a fire hydrogen chloride, carbon monoxide, phosphorus pentoxide and sulphur dioxide may be formed. Water spray, foam, carbon dioxide (CO ₂), dry powder.
Extinguishing media:	When fighting a major fire wear an air-supplied respirator. Wear protective equipment.
Recommended Protective clothing:	When fighting a major fire wear an air-supplied respirator. Wear protective equipment.

6. Accidental Release Measures.

Personal Precautions:	Emergency Procedures: Ensure suitable personal protection during removal of spillages. This means wearing eye protection, chemically resistant gloves, boots and overalls.
Environmental Precautions:	Washings must be prevented from entering surface water drains or waterways.
Procedure for spill:	Keep all bystanders away. Wear goggles, half face-piece respirator with combined dust and vapour cartridge, full length clothing and PVC gloves. Contaminated material must be disposed of in accordance with all local authority requirements. <ul style="list-style-type: none"> • For quantities up to 50L of product bury in a secure approved landfill site. • For quantities greater than 50L seek advice from the manufacturer (use emergency contact number) before attempting disposal. Contain in a secure location until disposal method is established.

Date of Issue: 11th August 2008

Page 4 of 7

Date of previous issue: 29th November 2005

Procedure for Disposal:	<p>Decontaminate the spill area with detergent and water and rinse with the smallest volume of water practicable.</p> <p>a) Triple rinsing or preferably pressure rinsing containers with water. Add the rinsings to the spray tank. DO NOT dispose of undiluted chemicals on site.</p> <p>b) Burning of empty containers if circumstances, especially wind direction, permit is an alternative method. Do not burn unless in a suitable incinerator.</p> <p>c) Product or unused spray mix should be disposed of according to label instructions.</p>
7. Handling and Storage.	
Handling Practices:	Avoid contact with skin and eyes and inhalation of concentrate or spray mist. When using, do not eat, drink or smoke. Wash face and hands before eating, drinking or smoking.
Conditions for Safe Storage and Store Sire Requirements:	Store in a cool, dry, well ventilated place and protect from sunlight. Keep away from excessive heat, open flames and other sources of ignition.
Packaging:	Store in original container, tightly closed, away from foodstuffs, drink and animal feedingstuffs.
Flammability:	Flammable liquid. Flash point 31°C.
8. Exposure Control/Personal Protection	
Engineering measures:	Use in well ventilated areas.
Respiratory protection:	Where insufficient ventilation, use suitable respiratory protection.
Hand protection:	Wear suitable protective gloves (e.g. Polyvinyl chloride – PVC). After contamination with product change the gloves immediately.
Eye protection:	Chemical goggles/face protection.
Other protective equipment:	Wear suitable protective clothing. Cholinesterase activity of the worker should be supervised.
Hygiene measures:	Avoid inhaling aerosols and vapours. Avoid contact with eyes and skin. Store work clothes and street clothes separately. Wash hand before breaks and at the end of work. Change contaminated protective clothing. Keep away from food, drinks and tobacco.

Date of Issue: 11th August 2008

Page 5 of 7

Date of previous issue: 29th November 2005

9. Physical and Chemical Properties

Form:	Liquid
Colour:	Clear brown
Odour:	Aromatic
Vapour pressure:	1 kPa (at 20°C) (xylene)
Vapour density:	3.7 (air =1) (xylene)
Solubility in water:	Emulsifies in water
pH:	5.0 to 6.0 (10% in water)
Specific gravity:	1.07 at 20°C
Boiling point:	138 - 142°C (boiling point range of xyle)
Flash point:	31°C

OTHER PROPERTIES

Flammability (explosive limits) LEL: 1.1; UEL: 6.6 Vol. % (xylene)

Auto-ignition temperature: 500°C (xylene)

Partition coefficient (octanol/water) *Xylene*: Log P_{ow} = 3.12 – 3.2
Prothiofos: Log P_{ow} = 5.67

10. Stability and Reactivity

Stability of the Substance:	Stable under standard conditions.
Incompatible materials:	Prothiofos reacts with alkalis and strong oxidizing agents.
Hazardous Reactions:	No hazardous reactions when stored and handled according to the label.

11. Toxicological Information

Acute oral toxicity:	LD ₅₀ : rat 1800mg/kg
Acute dermal toxicity:	LD ₅₀ : rat 5000mg/kg
Acute inhalation toxicity:	LC ₅₀ : rat >2.7mg/L (aerosol)– exposure time 4h (active ingredient)
Skin irritation:	Severely irritating (rabbit) (product)
Irritation to mucous membranes :	Moderately irritating (rabbit) (product)
Sensitization :	Skin sensitizer (guinea pig) (product)

Date of Issue: 11th August 2008

Page 6 of 7

Date of previous issue: 29th November 2005

12. Ecological Information

Acute fish toxicity:	<u>Prothiofos:</u> LC ₅₀ : 0.7mg/L (96h); Rainbow trout (<i>Oncorhynchus mykiss</i>) <u>Xylene:</u> LC ₅₀ : > 1 - <10mg/L
Toxicity for Daphnia:	<u>Prothiofos</u> EC ₅₀ : 0.014mg/L (48h); Water flea (<i>Daphnia magna</i>) <u>Xylene:</u> EC ₅₀ : > 1 - <10mg/L
Toxicity for Algae:	<u>Prothiofos</u> IC ₅₀ : 2.3mg/L (72h); green algae (<i>Selenastrum subspicatus</i>) <u>Xylene:</u> EC ₅₀ : > 1 - <10mg/L
Toxicity for Birds:	<u>Prothiofos</u> LD ₅₀ : 100 – 200mg/kg Japanese quail
Toxicity for Bacteria:	<u>Xylene:</u> EC ₅₀ : > 10 - <100mg/L

13. Disposal Considerations.

Product Disposal:	Dispose of this product only by using according to the label, or at an approved landfill or other approved facility.
Container Disposal:	Triple rinse the empty container adding rinseate to the spray tank. Recycle if possible. If allowed under local authority, burn if circumstances, especially wind direction permit, otherwise crush and bury in an approved local authority facility. Do not use container for any other purpose.

14. Transportation Information.

Rail/Road (RID/ADR)	UN 1993 Flammable Liquid, N.O.S.(contains xylene) Class 3 Packing Group: III Hazchem 3Y.
Sea (IMDG-Code)	UN 1993 Flammable Liquid, N.O.S.(contains xylene) Class 3 Packing Group: III Hazchem 3Y. Marine Pollutant for Marine Transport Only.
Air (ICAO/IATA)	UN 1993 Flammable Liquid, N.O.S.(contains xylene) Class 3 Packing Group: III Hazchem 3Y.

Date of Issue: 11th August 2008

Page 7 of 7

Date of previous issue: 29th November 2005**15. Regulatory Information.**

HSNO Approval Number:	HSR000200
HSNO Controls (inc. Tracking):	See www.ermanz.govt.nz for controls.
Approved Handlers required:	Approved Handlers required at time of use.
ACVM Registration:	P 2731
ACVM Controls:	See www.nzfsa.govt.nz/acvm for registration conditions.

16. Other Information.

3.1C Flammable liquid and vapour – keep away from naked flame.
 6.1D May be harmful if swallowed.
 6.3A Harmful – may cause skin irritation.
 6.4A Harmful – may cause eye irritation.
 6.5B Harmful – may cause sensitization from prolonged skin contact.
 6.9A Toxic – presumed to/may cause target organ damage from repeated oral exposure at high doses.
 9.1A Toxic to aquatic organisms.
 9.3B Toxic to terrestrial vertebrates.
 9.4B Toxic to terrestrial invertebrates.

R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R36/38	Irritating to eyes and skin.
R48	Danger of serious damage to health by prolonged exposure.
R50	Very toxic to aquatic organisms.

® Registered trademark of Arysta LifeScience Corporation, Japan.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe products in terms of their safety requirements. The above details do not imply any guarantee concerning composition, properties or performance of the product.