

MATERIAL SAFETY DATA SHEET

Tempo® Residual Insecticide

Date of Issue: August 29th, 2006

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND SUPPLIER

Product name: Tempo® Residual Insecticide
Other names: Responsar 2.5 SC (NZ)
Product code: 6133878 (1 L)
Chemical group: Pyrethroid
Recommended use: Insecticide concentrate for use in general insect control
Formulation: Suspension Concentrate (SC)
Supplier: Bayer Environmental Science – A Business Group of Bayer CropScience Pty Ltd
ABN 87 000 226 022
Address: 391 - 393 Tooronga Road, East Hawthorn
Victoria 3123, Australia
Telephone: (03) 9248 6888
Facsimile: (03) 9248 6800
Website: www.bayercropscience.com.au
Contact: Technical Manager (03) 9248 6888
Emergency Telephone Number: 1800 033 111 – Orica SH&E Shared Services

2. HAZARDS IDENTIFICATION

HAZARDOUS SUBSTANCE - NON-DANGEROUS GOOD

Toxic by inhalation and if swallowed. May cause sensitisation by skin contact.

Hazard designation: Hazardous (National Occupational Health and Safety Commission - NOHSC)
Risk phrases: R23/25 – Toxic by inhalation and if swallowed.
R43 – May cause sensitisation by skin contact.
Safety phrases: See Sections 4, 5, 6, 7, 8, 9, 13
ADG classification: Not "dangerous goods" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.
SUSDP classification: Schedule 5 (Standard for the Uniform Scheduling of Drugs and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients:	CAS Number:	Concentration (g/L):
Betacyfluthrin	[68359-37-5]	25
Sulphuric acid	[7664-93-9]	0.5
Aqueous mixture of 5-chloro-2-methyl-2H-isothiazol-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	[55965-84-9]	2.3
Other ingredients	Non-hazardous	1112.2

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4. FIRST AID MEASURES

If poisoning occurs, immediately contact a doctor or Poisons Information Centre (telephone 13 11 26), and follow the advice given. Show this Material Safety Data Sheet to a doctor.

- Inhalation:** Move the patient to fresh air and keep at rest. Seek medical advice
- Skin contact:** Remove any contaminated clothing and wash skin area thoroughly with soap and copious amounts of water. Symptoms can be partially alleviated by the application of a vitamin E or moisturising cream or anaesthetic ointment.
- Eye contact:** Flush immediately with copious amounts of fresh running water. Seek medical advice if eyes are affected. Alleviate symptoms by instilling local anaesthetic drops e.g. 1% amethocaine hydrochloride eye drops.
- Ingestion:** Call a physician or Poisons Information Centre immediately. Rinse mouth.
- First Aid Facilities:** Provide eyewash and washing facilities in the workplace.
- Symptoms:** Local symptoms include skin and eye paraesthesia which may be severe (usually transient with resolution within 24 hours), eye and mucous membrane irritation, cough. Systemic symptoms include discomfort in the chest, bronchial hypersecretion, pulmonary oedema, tachycardia, low blood pressure, palpitation, nausea, vomiting, diarrhoea, abdominal pain, salivation, dizziness, blurred vision, headache, apathy, anorexia, somnolence, coma, spasm, convulsions, tremors, ataxia, muscular fasciculation.
- Medical attention:** Apply basic aid and decontamination procedures. Treat symptoms. There is no specific antidote.
- Note to physicians
The presenting signs of overexposure usually relate to hyperaesthesia of nerve endings in skin and mucous membranes exposed to the chemical. These signs can only be treated symptomatically and resolve spontaneously within 24-48 hours. The skin and mucous membrane hyperaesthesia results from direct contact, not from systemic distribution of the chemical.
- Treat large intakes with gastric lavage, and charcoal administration. Use endotracheal intubation, and artificial respiration (if necessary). In cases of severe ingestions, cardiac and respiratory function should be monitored. In case of convulsions, diazepam is the anticonvulsant of choice. Thus seizure management should follow standard practice using benzodiazepines (with oxygen and airway protection), if insufficiently effective followed by Phenobarbital infusion as required for status epilepticus. A suggested regimen would be: Start with 10 to 30 mg diazepam by intravenous injection according to body weight, for children pro rata. This dose is to be repeated every 10 to 30 minutes according to the patient's response.
- Contraindications: adrenergic compounds (except for CRP) and high dose atropine. Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning.

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5. FIRE FIGHTING MEASURES

Extinguishing media: Sprayed water jet, foam, extinguishing powder, CO₂, sand.

Hazards from combustion products: In the event of fire, hydrogen chloride (HCl), hydrogen cyanide (HCN), hydrogen fluoride (HF), carbon monoxide (CO) and nitrous gases (NO_x) may be released.

Precautions for fire fighters: Fight fire in the early stages if safe to do so. Wear respiratory protection. In well ventilated areas wear full face mask with combination filter, eg., ABEK-P2 (offers no protection from carbon monoxide). In enclosed premises use a respirator with independent air supply. Contain firefighting water.

6. ACCIDENTAL RELEASE MEASURES

Prevent spillage from spreading or entering waterways and underground drains. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority. Take up with absorbent material such as sawdust, peat, or chemical binding agent. Fill material, along with any contaminated soil etc., into sealable containers. Clean affected area with an aqueous detergent and a small amount of water. Absorb this with hydrated lime and place in a sealable container. Spread hydrated lime over the affected area. Do not smoke, eat or drink during clean-up operations.

7. HANDLING AND STORAGE

Handling: Keep out of reach of children.

Storage: Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Store away from food, drink or animal feeding stuffs. To protect the quality of the product, avoid temperatures below minus 10°C and above 40°C. Store so that unauthorised persons do not have access.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards: NOHSC has not determined exposure standards for betacyfluthrin or any of the other ingredients in the formulation except:
Sulphuric acid TWA 1 mg/cu metre (ACGIH)
STEL 3 mg/cu metre (ACGIH)
Sulphuric acid is present in the product only at extremely low levels as a buffer (pH adjuster).

Engineering controls: No engineering controls are required for the normal use of this product according to label.

Personal Protective Equipment: Personal protective measures:
Avoid contact with eyes and skin. Do not inhale vapour and spray mist. If product is on the skin wash the affected area immediately with soap and water. If product enters the eye(s) flush the eye(s) immediately with copious amounts of fresh running water. Seek medical advice if eye(s) are affected.
Personal protective equipment:
When preparing the spray, wear cotton overalls buttoned to the neck and wrist, a washable hat and elbow length PVC gloves. When using the prepared spray wear cotton overalls buttoned to the neck and wrist, a washable hat, and rubber gloves
Industrial hygiene:
After use and before eating, drinking or smoking, wash hands, arms, and face thoroughly with soap and water. After each day's use wash gloves, respirator or face piece, and if rubber, wash with detergent and warm water, and contaminated clothing. Do not eat or smoke while using the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Greyish white liquid suspension
Odour: Slight characteristic smell
Vapour pressure: Not available
Vapour density: Not available
Boiling point: Approx 100°C
Freezing/melting point: Not available
Solubility: Miscible
Density: Approx 1.140 kg/litre at 20°C
pH: 3.0-7.0 (undiluted)
Flash Point: No flash point up to 100°C
Flammability (explosive) limits: Not available
Auto-ignition temperature: Not available
Octanol/water partition coefficient: Not available
Formulation: Suspension concentrate

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10. STABILITY AND REACTIVITY

Chemical stability:	Stable under normal conditions of use.
Hazardous polymerisation:	Hazardous polymerisation will not occur.
Incompatible materials:	Avoid strong acids, bases, and strong oxidising agents.
Hazardous decomposition products:	In the event of fire, hydrogen chloride (HCl), hydrogen cyanide (HCN), hydrogen fluoride (HF), carbon monoxide (CO) and nitrous gases (NO _x) may be released.

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Inhalation:	Toxic by inhalation. May irritate mucous membranes of nose and mouth.
Skin contact:	May irritate the skin.
Eye contact:	May irritate eyes.
Ingestion:	Toxic if swallowed.
Other:	None

ANIMAL TOXICITY DATA – PRODUCT:

Acute:

Oral toxicity:	LD ₅₀ rat: >2500 mg/kg
Dermal toxicity:	LD ₅₀ rat: >4000 mg/kg
Inhalation toxicity:	LC ₅₀ (4 hr) >4524 mg/m ³
Skin irritation:	Not irritating – rabbit
Eye irritation:	Not irritating – rabbit
Sensitisation:	Not sensitising - guinea pig

Chronic:

Non-carcinogenic, non-mutagenic, and non-teratogenic in laboratory species.

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12. ECOLOGICAL INFORMATION – Beta-Cyfluthrin

DO NOT contaminate streams, rivers, or waterways with the chemical or used containers.

Fish toxicity: LC₅₀ (96 h): 0.33 µg/L; Golden orfe (*Leuciscus idus*)
LC₅₀ (96 h): 0.089 µg/L; Rainbow trout (*Oncorhynchus mykiss*)
LC₅₀ (96 h): 0.028 µg/L; Bluegill sunfish (*Lepomis macrochirus*)

Daphnia toxicity: EC₅₀ (48 h): 0.29 µg/L; Water flea (*Daphnia magna*)

Toxicity to algae: EC₅₀ (96 h) >10 µg/L; Green algae (*Scenedesmus subspicatus*)

Bird toxicity: Acute oral LD₅₀ for Japanese quail >2000 mg/kg

Bee toxicity: LD50 <0.1 µg/bee

Other: None

Environmental fate, persistence and degradation: Degradation in soil is rapid.
Leaching behaviour: is classified as immobile.

13. DISPOSAL CONSIDERATIONS

- 1) After intended use: Triple rinse containers before disposal and add rinsings to the tank mix or dispose of in a disposal pit away from waterways. Destroy empty containers by breaking, crushing or puncturing them. Bury containers at a depth of 500 mm or more at a safe disposal site, or take them to a dump that does not burn its refuse. Do not burn empty containers or product.
- 2) After spill or accident: Dispose of sealed containers at an approved local waste disposal site.

14. TRANSPORT INFORMATION

UN number: Not applicable
Proper shipping name: Not applicable
Class and Subsidiary Risk: Not "dangerous goods" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.
Packing Group: Not applicable
EPG: Not applicable
Hazchem code: Not applicable

15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1988

Australian Pesticides and Veterinary Medicines Authority Approval Number: 54134

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16. OTHER INFORMATION

Trademark information: Tempo® is a Registered Trademark of Bayer.

Preparation information: Replaces November 30th, 2004 edition.
Reasons for update: Hazardous Substance Classification, Risk Phrases, Formulation Composition, First Aid Measures, Hazards from Combustion Products.

Data sources: Bayer CropScience Pty Ltd product safety data and published data

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

END OF MSDS