

MATERIAL SAFETY DATA SHEET

Responsar® Beta SC Insecticide

Date of Issue: September 18th, 2006

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND SUPPLIER

Product name: Responsar® Beta SC Insecticide
Other names: None
Product code: 4938592 (500 mL)
Chemical group: Pyrethroid
Recommended use: Insecticide spray for general pest control use
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
Very toxic by inhalation and if swallowed. Not flammable.

Hazard designation: Hazardous according to criteria of Worksafe Australia
Risk phrases: R26/28 – Very toxic by inhalation and if swallowed
Safety phrases: See Sections 4, 5, 6, 7, 8, 9, 13
ADG classification: Not a "Dangerous good" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. For transport by sea, Responsar Beta SC Insecticide is a MARINE POLLUTANT. See Section 14.
SUSDP classification: Schedule 6 (Standard for the Uniform Scheduling of Drugs and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients:	CAS Number:	Concentration (g/L):
Betacyfluthrin	[68359-37-5]	125
Sulfuric acid	[7664-93-9]	0.25
Other ingredients	(non-hazardous)	928

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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:** Wash out mouth with water. DO NOT induce vomiting. Give a glass of water. Do not give anything by mouth if the patient is semi-conscious or unconscious. Keep patient at rest and seek medical advice as above. Do not apply mouth-to-mouth resuscitation if the material has been ingested.
- First Aid Facilities:** Provide 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: Fire fighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). Keep unnecessary people away and move all other personnel to windward side of fire. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of fire control water or other extinguishing agent and spillage safely later.

6. ACCIDENTAL RELEASE MEASURES

Dealing with spills and disposals may result in the potential for increased personal exposure. Protective clothing and equipment as described in the PERSONAL PROTECTION section should be worn. Avoid contact with spilled material or contaminated surfaces. Keep people and animals away. Prevent spillage from spreading or entering waterways and underground drains. 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 away from food, drink or animal feeding stuffs. Store below 30°C. Keep away from heat or moisture. Store in tightly closed, original container in a safe, well ventilated area, as cool as possible. Do not store for prolonged periods in direct sunlight. Store so that unauthorised persons do not have access.

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 pH adjuster.

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

Personal Protective Equipment: Very toxic if inhaled or swallowed. Harmful if absorbed by skin contact. Will irritate the eyes and skin. Avoid contact with eyes and skin. Do not inhale vapour and spray mist. When preparing the spray, wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow length PVC gloves and half-facepiece respirator. When using the prepared spray wear cotton overalls buttoned to the neck and wrist, a washable hat, and rubber gloves. 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 contaminated clothing.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Beige liquid
Odour:	Slight characteristic smell
Vapour pressure:	Not relevant
Viscosity:	600-900 mPa.s DIN 53211
Boiling point:	Approx 100°C
Freezing/melting point:	Not available
Solubility:	Miscible
Density:	Approx 1.06 kg/litre at 20°C
pH:	4.0 – 5.0 undiluted
Flash Point:	>100 °C. No flash point – determination conducted up to boiling point
Flammability (explosive) limits:	Not relevant
Auto-ignition temperature:	Not relevant
Octanol/water partition coefficient:	<i>Beta-cyfluthrin</i> : $K_{ow} \log P = 6.18$ (22° C)
Formulation:	Suspension concentrate

10. STABILITY AND REACTIVITY

Chemical stability:	Product is stable and not flammable.
Hazardous polymerisation:	Hazardous polymerisation is unlikely to occur.
Conditions to avoid:	Avoid temperatures below minus 10°C and above 40°C.
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 (NOx) may be released.

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Inhalation:	Exposure to spray mist may cause nasal irritation.
Skin contact:	Will irritate the skin.
Eye contact:	Will irritate the eyes.
Ingestion:	Harmful if swallowed.

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ANIMAL TOXICITY DATA – ACTIVE INGREDIENT:

Acute:

Oral toxicity:	LD ₅₀ rat: 380 mg/kg
Dermal toxicity:	LD ₅₀ rat: >5000 mg/kg
Inhalation toxicity:	LC ₅₀ rat: (4 hr) 0.1 mg/L
Skin irritation:	Not irritating – rabbit
Eye irritation:	Slightly irritating
Sensitisation:	Non-sensitising (guinea pig)

Chronic:

Beta-cyfluthrin is not mutagenic, carcinogenic or teratogenic and did not cause reproductive effects in animal studies. There was no evidence of delayed neurotoxicity.

12. ECOLOGICAL INFORMATION - betacyfluthrin

Beta-cyfluthrin is very toxic to aquatic organisms. It is dangerous to bees. It has a low toxicity to birds, mammals and earthworms. DO NOT contaminate streams, rivers, or waterways with the chemical or used containers.

Fish toxicity:	LC ₅₀ (96 h): 0.33 µg/L; Golden orfe (<i>Leuciscus idus</i>) LC ₅₀ (96 h): 0.089 µg/L; Rainbow trout (<i>Oncorhynchus mykiss</i>) LC ₅₀ (96 h): 0.028 µg/L; Bluegill sunfish (<i>Lepomis macrochirus</i>)
Daphnia toxicity:	EC ₅₀ (48 h): 0.29 µg/L; Water flea (<i>Daphnia magna</i>)
Toxicity to algae:	EC ₅₀ (96 h) >10 µg/L; Green algae (<i>Scenedesmus subspicatus</i>)
Bird toxicity:	Acute oral LD ₅₀ for Japanese quail >2000 mg/kg
Bee toxicity:	LD50 <0.1 µg/bee
Other:	None
Environmental fate, persistence and degradation:	The degradation of betacyfluthrin is rapid in different soils. Leaching behaviour can be classified as immobile. The bioconcentration factor (BCF) of betacyfluthrin is 506. It is readily biodegradable.

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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 (road/rail)
Proper shipping name:	Not applicable (road/rail)
Class and Subsidiary Risk:	Not applicable (road/rail)
Packing Group:	Not applicable (road/rail)
EPG:	Not applicable (road/rail)
Hazchem code:	Not applicable (road/rail)
Marine pollutant:	Yes – If this product is shipped by sea it is a Class 9 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (contains betacyfluthrin), UN 3082, Packing Group III.

15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1988
Australian Pesticides and Veterinary Medicines Authority Approval Number: 52198

16. OTHER INFORMATION

Trademark information:	Responsar® is a Registered Trademark of Bayer.
Preparation information:	Replaces October 15, 2002 edition. Reasons for update: Product name, Risk phrases, ADG Classification, First aid measures, Ecological information, Marine pollutant status.
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