

MATERIAL SAFETY DATA SHEET

Reslin® Thermal Fogging and ULV Insecticide Concentrate



Date of Issue: June 17th, 2011

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND SUPPLIER

Product name: **Reslin® Thermal Fogging and ULV Insecticide Concentrate**
Other names: None
UVP: 05943159
Chemical group: Pyrethroid
Recommended use: Insecticide
Formulation: Emulsifiable concentrate (EC)
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
Technical Information Service: 1800 804 479
Facsimile: (03) 9248 6800
Website: www.bayeres.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
Harmful: May cause lung damage if swallowed. Flammable.

Hazard designation: Hazardous (National Occupational Health and Safety Commission - NOHSC)

Risk phrases: R65 – Harmful: May cause lung damage if swallowed.

Safety phrases: See Sections 4, 5, 6, 7, 8, 10, 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, Reslin Thermal Fogging and ULV Insecticide Concentrate is a MARINE POLLUTANT. See Section 14.

SUSMP classification: Schedule 5 (Standard for the Uniform Scheduling of Medicine and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients:	CAS Number:	Concentration (g/L):
Bioresmethrin	[28434-01-7]	50
Piperonyl butoxide	[51-03-6]	400
Hydrocarbon solvent	[64742-94-5]	370
Other ingredients	(not hazardous)	160

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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:** Remove person to fresh air. Seek medical advice if exposure has been more than trivial.
- Skin contact:** Carefully remove contaminated clothing and footwear. Wash affected areas with soap and water. Apply vitamin E cream, toilet milks or local anaesthetic creams to reduce irritation if it occurs. Seek medical advice if at all worried. Launder contaminated clothing before re-use.
- Eye contact:** Rinse immediately with plenty of water and seek medical advice.
- Ingestion:** Do not induce vomiting. Give a glass of water and seek immediate medical advice.
- First Aid Facilities:** Provide washing facilities in the workplace.
- Medical attention:** Symptoms
Burning sensations on the skin, irritation of the mucous membranes, coughing and sneezing may be experienced. Following severe intoxication, respiratory effects can include chest tightness, airway hyperreaction, and pulmonary oedema. Possible circulatory effects include tachycardia, hypotension, and palpitations. Gastrointestinal symptoms may include nausea, vomiting, diarrhoea, abdominal pain, and salivation. Potential Central Nervous System effects are dizziness, blurred vision, headache, listlessness, anorexia, somnolence/coma, seizures/convulsions, tremor, ataxia and muscle fasciculations.

Treatment

Basic aid, decontamination and symptomatic treatment.

Note for physicians

This product contains a hydrocarbon solvent. Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause bronchopneumonia or pulmonary oedema.

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.

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Contraindications: adrenergic compounds (except for CRP) and high dose atropine. Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning.

5. FIRE FIGHTING MEASURES

Extinguishing media: Water spray, carbon dioxide, foam, dry chemical. Do not use a water jet from a fire hose.

Hazards from combustion products: Heating/combustion will generate oxides of carbon and nitrogen, and other irritant and toxic fumes.

Precautions for fire fighters: This product is a combustible liquid. Heating/combustion will generate oxides of carbon and nitrogen, and other irritant and toxic fumes. Fire fighters should wear full protective clothing and self-contained breathing apparatus. Do not release contaminated water into the environment. Keep intact containers cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep people away from and upwind of spill/leak. Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke.

Environmental precautions: Do not allow to get into surface water, drains and ground water.

Methods for cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Keep in suitable, closed containers for disposal. Clean floors and contaminated objects with plenty of water.

Additional advice: Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13. Check also for any local site procedures.

7. HANDLING AND STORAGE

Handling: Keep out of reach of children. Use only in a well-ventilated area. Store product in the closed, original container in a cool, well-ventilated area, protected from light. Avoid ingestion and inhalation. Do not apply in the presence of naked flames, hot surfaces or unprotected electrical equipment.

Storage: Store product in the closed, original container in a cool, well-ventilated area, protected from light.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters:

Components	CAS-No.	Control parameters	Update	Basis
Hydrocarbon solvent	64742-94-5	1 ppm		Manufacturer

Engineering controls: Control process conditions to avoid contact. Use local exhaust ventilation during manufacture.

Personal protective equipment:

In normal use and handling conditions:

Eyes: Chemical goggles

Clothing: Full-length work clothes

Gloves: PVC or nitrile gloves

Respiratory: Approved pesticides respirator during spraying

Other: Do not eat, drink or smoke until after washing.
Wash thoroughly after handling.
After each day's use wash gloves, goggles and contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Form: Liquid
Colour: Clear yellow to pale brown
Odour: Mild aromatic odour

Vapour pressure: 18.6 mPa (25 °C) (bioresmethrin)

Vapour density: Not available

Boiling point: 184 °C (boiling point)

Freezing/melting point: Not available

Solubility: Emulsifies

Density: 0.98 at 20 °C

pH: 3.0 to 5.0

Flash Point: 68 °C (Abel closed cup)

Flammability (explosive) limits: 0.6 - 7.0 %

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Auto-ignition temperature: > 450 °C (solvent)
Percent volatiles: 39 %
Octanol/water partition coefficient: Not available
Formulation: Emulsifiable concentrate

10. STABILITY AND REACTIVITY

Chemical stability: Stable under normal conditions. No hazards are expected if the material is handled, stored and used according to instructions and government regulations.
Hazardous polymerisation: Not known to produce hazardous reactions.
Conditions to avoid: Extreme heat
Incompatible materials: Avoid oxidising agents and alkalis.
Hazardous decomposition products: Bioresmethrin decomposes in UV light.

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Inhalation: Do not breathe vapour. Direct inhalation of spray may produce respiratory irritation and can result in headaches, dizziness, drowsiness, and possibly nausea.
Skin contact: Mild irritant and drying to the skin. Avoid contact with skin.
Eye contact: Mild irritant
Ingestion: Harmful: May cause lung damage if swallowed. Symptoms include headache, dizziness, drowsiness, cramps, nausea, vomiting, diarrhoea.
Other: None

ANIMAL TOXICITY DATA – PRODUCT: No data available for the product.

ANIMAL TOXICITY DATA – INDIVIDUAL INGREDIENTS:

Acute oral toxicity: LD₅₀ rat: 7,070 – 8,000mg/kg
The value mentioned relates to the active ingredient, bioresmethrin.
LD₅₀ rat/rabbit: 7,500 mg/kg

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	The value mentioned relates to the active ingredient, piperonyl butoxide.
Acute dermal toxicity:	LD ₅₀ rat: > 10,000 mg/kg The value mentioned relates to the active ingredient, bioresmethrin. LD ₅₀ rabbit: > 2,000 mg/kg The value mentioned relates to the active ingredient, piperonyl butoxide.
Inhalation toxicity:	LC ₅₀ (4 h) rat: 5.28 mg/L The value mentioned relates to the active ingredient, bioresmethrin. LC ₅₀ (4 h) rat: > 5.9 mg/L The value mentioned relates to the active ingredient, piperonyl butoxide.
Skin irritation:	Not a skin irritant The value mentioned relates to the active ingredient, piperonyl butoxide.
Eye irritation:	Not an eye irritant The value mentioned relates to the active ingredient, piperonyl butoxide.
Sensitisation:	Not a skin sensitiser The value mentioned relates to the active ingredient, piperonyl butoxide.

Other information:

Bioresmethrin was not embryotoxic or teratogenic in animal studies. Marginally higher incidences of benign liver tumours in mice were observed following lifetime high exposure to piperonyl butoxide. The significance of this observation is questionable and under international review. The doses at which tumours were observed greatly exceed potential human exposure from labelled uses of this product. Piperonyl butoxide is not classified as a carcinogen. One reference indicates that exposure to large amounts of piperonyl butoxide may cause blood disorders or liver damage. Piperonyl butoxide is not mutagenic. No birth defects or adverse effects on reproductive parameters were found in studies with rats and rabbits. Piperonyl butoxide is not considered to be teratogenic.

12. ECOLOGICAL INFORMATION

Fish toxicity:	LC ₅₀ (96 h) 0.00062 – 1.0 mg/L (Fish) The value mentioned relates to the active ingredient, bioresmethrin. LC ₅₀ (24 h) 5.3 mg/L (Carp) The value mentioned relates to the active ingredient, piperonyl butoxide.
Daphnia toxicity:	EC ₅₀ (48 h) 0.0008 mg/L (<i>Daphnia magna</i>) The value mentioned relates to the active ingredient, bioresmethrin. LC ₅₀ (24 h) 2.95 mg/L (<i>Daphnia magna</i>) The value mentioned relates to the active ingredient, piperonyl butoxide.
Toxicity to algae:	Not available
Bird toxicity:	LD ₅₀ >10,000 mg/kg (Chickens) The value mentioned relates to the active ingredient, bioresmethrin. LD ₅₀ >100 mg/kg (Starlings) The value mentioned relates to the active ingredient, piperonyl butoxide.
Bee toxicity:	LD ₅₀ (oral) 2 ng/bee; (topical) 6.2 ng/bee The value mentioned relates to the active ingredient, bioresmethrin.

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LD₅₀ >25µg/bee
The value mentioned relates to the active ingredient, piperonyl butoxide.

Environmental fate,
persistence and
degradation: Bioresmethrin degrades in light.

13. DISPOSAL CONSIDERATIONS

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for the purpose, clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

14. TRANSPORT INFORMATION

ADG

According to AU01, Environmentally Hazardous Substances in packagings, IBCs or any other receptacle not exceeding 500 kg or 500 L are not subject to the ADG Code.

IMDG

UN-Number	3082
Labels	9
Packaging group	III
EmS	F-A , S-F
Marine pollutant	Marine Pollutant
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BIORESMETHRIN AND PIPERONYL BUTOXIDE MIXTURE)

IATA

UN-Number	3082
Labels	9
Packaging group	III
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BIORESMETHRIN AND PIPERONYL BUTOXIDE MIXTURE)

15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1994.

Australian Pesticides and Veterinary Medicines Authority Approval Number: 32575.

16. OTHER INFORMATION

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

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Preparation information: Replaces September 14th, 2006 edition.
Reason for update: Renewal due.

Data sources: Bayer CropScience European product safety data sheet.

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