

# MATERIAL SAFETY DATA SHEET

## Reslin® Thermal Fogging and ULV Insecticide Concentrate

Date of Issue: September 14<sup>th</sup>, 2006

### 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND SUPPLIER

**Product name:** Reslin® Thermal Fogging and ULV Insecticide Concentrate  
**Other names:** None  
**Product code:** 4208489 (1 L), 4209477 (20 L)  
**Chemical group:** Pyrethroid  
**Recommended use:** A liquid insecticide concentrate for indoor and outdoor use by commercial pest control operators.  
**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  
**Facsimile:** (03) 9248 6800  
**Website:** [www.bayercropscience.com.au](http://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

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, 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, Reslin Thermal Fogging and ULV Insecticide Concentrate is a MARINE POLLUTANT. See Section 14.  
**SUSDP classification:** Schedule 5 (Standard for the Uniform Scheduling of Drugs 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.
- 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.
- Medical attention:** 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.

#### Treatment

Basic aid, decontamination and symptomatic treatment.

#### Note for 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:** 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

Avoid contact with spilled material or contaminated surfaces. When dealing with the spillage do not eat, drink or smoke and wear personal protective clothing and equipment as detailed in 'Personal Protection' section. Keep people and animals away. Prevent spillage from entering drains, sewers or watercourses. Contain/absorb spillage in sand/earth or other suitable inert material. Transfer collected material to sealable containers. Seal and label containers ready for disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority.

### 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.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure standards:** No exposure standard has been assigned by the National Occupational Health and Safety Commission (Worksafe Australia). The manufacturer of the hydrocarbon solvent recommends a TWA exposure limit of 100 ppm.

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

**Personal Protective Equipment:**

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.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear yellow to pale brown liquid
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 %
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

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### 11. TOXICOLOGICAL INFORMATION

#### POTENTIAL HEALTH EFFECTS

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

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

#### ANIMAL TOXICITY DATA – INDIVIDUAL INGREDIENTS:

##### Acute:

<b>Oral toxicity:</b>	LD <sub>50</sub> rat: 7,070 – 8,000mg/kg (bioresmethrin) LD <sub>50</sub> rat/rabbit: 7,500 mg/kg (piperonyl butoxide)
<b>Dermal toxicity:</b>	LD <sub>50</sub> rat: > 10,000 mg/kg (bioresmethrin) LD <sub>50</sub> rabbit: > 2,000 mg/kg (piperonyl butoxide)
<b>Inhalation toxicity:</b>	LC <sub>50</sub> (4 h) rat: 5.28 mg/L (bioresmethrin) LC <sub>50</sub> (4 h) rat: > 5.9 mg/L (piperonyl butoxide)
<b>Skin irritation:</b>	Not irritating (piperonyl butoxide)
<b>Eye irritation:</b>	Not irritating (piperonyl butoxide)
<b>Sensitisation:</b>	Not a skin sensitiser (piperonyl butoxide)

##### Chronic:

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.

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### 12. ECOLOGICAL INFORMATION

This product is very toxic to fish and aquatic organisms

<b>Fish toxicity:</b>	Bioresmethrin LC <sub>50</sub> : 0.00062 – 1.0 mg/L (96 h) fish Piperonyl butoxide LC <sub>50</sub> : 5.3 mg/L (24 h) carp
<b>Daphnia toxicity:</b>	Bioresmethrin EC <sub>50</sub> : 0.0008 mg/L(48 h) Daphnia Piperonyl butoxide LC <sub>50</sub> : 2.95 mg/L (24h)
<b>Toxicity to algae:</b>	Not available
<b>Bird toxicity:</b>	Bioresmethrin LD <sub>50</sub> : >10,000 mg/kg chickens Piperonyl butoxide LD <sub>50</sub> : >100 mg/kg starlings
<b>Bee toxicity:</b>	Bioresmethrin: LD <sub>50</sub> (oral): 2 ng/bee; (topical): 6.2 ng/bee Piperonyl butoxide: LD <sub>50</sub> : >25µg/bee
<b>Environmental fate, persistence and degradation:</b>	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

<b>UN number:</b>	Not applicable (road and rail)
<b>Proper shipping name:</b>	Not applicable (road and rail)
<b>Class and Subsidiary Risk:</b>	Not applicable (road and rail)
<b>Packing Group:</b>	Not applicable (road and rail)
<b>EPG:</b>	Not applicable (road and rail)
<b>Hazchem code:</b>	Not applicable (road and rail)
<b>Marine pollutant:</b>	Yes - If this product is shipped by sea it is a Class 9 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (contains bioresmethrin, piperonyl butoxide), 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: 32575

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### 16. OTHER INFORMATION

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

**Preparation information:** Replaces October 15<sup>th</sup>, 2003 edition.  
Reason for update: ADG Classification, Marine pollutant status, First aid measures, Animal toxicity data, Ecological information.

**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