

1. Identification of Chemical Product and Company

Cheminova Australia Pty Ltd

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Substance:	Bifenthrin in a suitable solvent system.
Trade Name:	Cheminova Bifenthrin 250EC Insecticide/Miticide
APVMA No.:	67087
Product Use:	For the control of certain insect pests on fruit, vegetables and field crops as described on the product label.

2. Hazards Identification**Hazard Classification: HAZARDOUS SUBSTANCE. DANGEROUS GOODS.**

Hazard classification according to the criteria of NOHSC.

Dangerous goods classification according to the Australia Dangerous Goods Code.

Risk phrases:

R25 Toxic if swallowed.

R36/37/38 Irritating to eyes, respiratory system and skin.

R61 May cause harm to the unborn child.

R65 Harmful: may cause lung damage if swallowed.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment.

Safety phrases:

S2 Keep out of reach of children.

S23 S51 Do not breathe vapour. Use only in well ventilated areas

S24 Avoid contact with skin.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S62 If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

Poison Schedule: S6**3. Composition/Information on Ingredients**

Ingredient Name	CAS No.	Proportion
Bifenthrin	82657-04-3	250 g/L
Liquid hydrocarbon	64742-94-5	553 g/L
N-Methyl-2-pyrrolidone	872-50-4	100 g/L
Other ingredients (non-hazardous)	-	Balance

4. First Aid Measures

If poisoning is suspected contact the Poisons Information Centre. Phone Australia 131126.

Inhalation: Remove affected person to fresh air until recovered. If symptoms develop or persist, seek medical advice**Skin Contact:** Wash affected areas thoroughly with soap and water. Remove contaminated clothing and launder before re-use. If irritation persists seek medical advice.**Eye Contact:** If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes. Seek medical advice.**Ingestion:** If swallowed, do NOT induce vomiting; rinse mouth thoroughly with water and contact a Poisons Information Centre, or call a doctor at once. Make every effort to prevent vomit from entering the lungs by careful placement of the patient.**Advice to Doctor:** Treat symptomatically. If vomiting occurs, solvent present may cause pulmonary pneumonitis. Exposure to bifenthrin can result in sensations of tingling especially in the face. The effects are transient and generally disappear in one to two days.

5. Fire Fighting Measures

Suitable Extinguishing Media: Suitable extinguishing media are carbon dioxide, dry chemical, foam, water fog. Water fog or fine spray is the preferred medium for large fires. Try to contain spills, minimise spillage entering drains or water courses.

Fire and Explosion Hazards: This product is classified as a C1 combustible product. There is little risk of an explosion from this product if commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances.

Fire decomposition products from this product are likely to be toxic and corrosive if inhaled. Take appropriate protective measures.

Special Protective Equipment for fire fighters: Breathable air apparatus may have to be worn if material is involved in fires especially in confined spaces.

Other Information: If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is liquid-tight chemical protective clothing and breathing apparatus.

6. Accidental Release Measures

Spills and Disposal: Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite). Collect spilled material and waste in sealable open-top type containers for disposal.

Personal Protection: For appropriate personal protective equipment (PPE) refer section 8.

Clean-up Methods – Large spillages: Place damaged containers in recovery bins (if available) and return to manufacturer.

If large liquid spills occur, attempt to recover as much spilt material from sumps and bunded areas as possible, before absorbing remaining material into vermiculite or other absorbent.

7. Handling and Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Store in a cool, well ventilated area. Check containers periodically for leaks. Containers should be kept closed in order to minimise contamination. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. If you keep more than 10,000kg or L of Dangerous Goods of Packaging Group III, you may be required to license the premises or notify your Dangerous Goods authority. If you have any doubts, we suggest you contact your Dangerous Goods authority in order to clarify your obligations. Check packaging - there may be further storage instructions on the label.

8. Exposure Controls and Personal Protection

National Exposure Standards: Safe Work Australia has set the following exposure standard for N-methyl pyrrolidone : TLV (TWA) 103 mg/m³, STEL 309 mg/m³. SK

'SK' notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

Engineering Controls: This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

Personal Protective Equipment: When preparing and using the product wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and face shield or goggles.

Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Otherwise, not normally necessary. Eyebaths or eyewash stations and safety deluge showers should be provided near to where this product is being used.

Hygiene Measures: After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash contaminated clothing and safety equipment.

9. Physical and Chemical Properties

Appearance:	Clear, straw coloured liquid
Odour:	Solvent odour
Boiling point:	Not available
Solubility in water:	Forms an emulsion in water
Specific gravity:	0.98-0.99
pH, 5% in water:	6.5-7.5
Vapour pressure:	0.0178 mPa @ 20°C for bifenthrin
Volatile component:	No specific data. Expected to be low at 100°C
Octanol / water partition coefficient:	Kow Log P is 6.6 for bifenthrin
Flash point:	66°C (solvent)
Flammability:	Combustible liquid C1.
Auto ignition temperature:	Not determined
Explosion properties:	No information

10. Stability and Reactivity

Chemical stability: This product is unlikely to react or decompose under normal storage conditions.

Conditions to avoid: Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight

Hazardous reactions: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. May form hydrogen fluoride gas and other compounds of fluorine. Polymerisation reactions are unlikely; they are not expected to occur.

Hazardous polymerization: Polymerisation reactions are unlikely; they are not expected to occur.

11. Toxicological Information

Inhalation:	Breathing in high concentrations of vapour can produce central nervous system depression, which can lead to loss of coordination, impaired judgement and if exposure is prolonged, unconsciousness. Breathing in high concentrations of aerosols of this material may have the effects noted above and, in addition, cause nausea and irritation of the nose, throat and respiratory tract.
Ingestion:	Possible symptoms of exposure include: nausea, vomiting, central nervous system depression and a burning or itching sensation..
Skin:	Will irritate the skin. Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis. The product is a skin sensitiser. Prolonged contact with the concentrate may result in absorption of bifenthrin in harmful amounts. Exposure to bifenthrin can result in sensations of tingling especially in the face. The effects are transient and generally disappear in one to two days.
Eye:	Will irritate the eyes.
Chronic effects:	Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects. .
Carcinogenicity:	An impurity present in the solvent has been found to cause tumours in laboratory studies. The active ingredient, bifenthrin, is not considered carcinogenic.
Reproductive toxicity:	May cause harm to the unborn child.
Mutagenicity:	Data indicates no mutagenic effects.
Acute toxicity:	Oral: LD50 (rat) 55 mg/kg for bifenthrin. Dermal: LD50 (rat) >2000 mg/kg for bifenthrin.
Other Information:	The Australian Acceptable Daily Intake (ADI) for bifenthrin for a human is 0.01 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.1 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and

the most sensitive species. (Ref: Comm. Dept. of Health and Ageing Office of Chemical Safety and Environmental Health, 'ADI List', December 2011).

12. Ecological Information

Persistence / degradability:	Strongly bound to soil.
Known harmful effects on the environment:	Bifenthrin products do not appear to pose any threat to birds. The product is a marine pollutant for sea transport.
Other precautions:	Dangerous to bees. Should not be applied while bees are actively foraging. Do not contaminate streams, rivers or waterways with the chemical or used containers
Environmental protection:	Marine pollutant. Spray drift can cause damage, read the label for more information.
Acute fish toxicity:	The following is data for the active ingredient, bifenthrin. LC ₅₀ (96hr) for rainbow trout is 0.00026 mg/l
Acute daphnia toxicity:	EC ₅₀ (48hr) for daphnia is 0.00011 mg/l. (bifenthrin).
Acute toxicity – other organisms:	LD ₅₀ for bobwhite quail is 1800 mg/kg. Toxic to bees. LD ₅₀ >0.01 µg/bee

13. Disposal Considerations

Product disposal: On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear[®]).

Container Disposal: Do not use this container for any other purpose. Triple or preferably pressure rinse inner bladder or containers before disposal. Add rinsings to the spray tank. If recycling, replace cap and return clean containers to recycler or designated collection point.

If not recycling, break, crush or puncture and deliver empty packaging for appropriate disposal at an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant local, state or territory government regulations.

DO NOT burn empty containers or product. drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMUSTER symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program.

Returnable containers: empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for refill or storage.

14. Transport Information

Land transport:	Dangerous goods
ADG	
Sea transport:	Marine pollutant
(IMDG)	
UN Number	3352
UN Proper Shipping Name	PYRETHROID PESTICIDE, LIQUID, TOXIC (contains Bifenthrin)
Class	6.1
Packaging Group	III
Hazchem code	2X

15. Regulatory Information

Poisons Schedule: S6

Packaging & Labelling: POISON, KEEP OUT OF REACH OF CHILDREN, READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Hazard category: Toxic, irritant

Other information: This product is registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA). APVMA product number: 67087

16. Other Information

This Material Safety Data Sheet 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 SDS 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.

DISCLAIMER

This product must be used, stored and handled strictly as directed in accordance with the label and this Safety Data Sheet. To the extent permitted by law, Cheminova Australia Pty Ltd, the trademark owner, manufacturer and vendors of the product will not be liable for any loss or damage arising from use, storage or handling contrary to the product label and MSDS.