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This version issued: June, 2024

Section 1 - Identification of The Material and Supplier

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Melbourne VIC 3000 AUSTRALIA Emergency: 1800 033 111

Chemical nature: Bifenthrin is a pyrethroid derivative.

Trade Name: Sabakem Bifenthrin 100EC Insecticide/Miticide

APVMA code: 67468

Product Use: Agricultural insecticide for use as described on the product label.

Creation Date: August, 2013

This version issued: June, 2024 and is valid for 5 years from this date.

Emergency telephone: Poisons Information Centre 13 11 26 (24 hours)

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia criteria.

ADG Classification:

Not subject to the provisions of the Australian Code for the Transport of Dangerous Goods by Road and Rail when transported by road or rail in; packages 500kg(L) or less; or IBCs (refer to SP AU01). However, if transported by Air or Sea, this provision does not apply, and the product is classed as Dangerous (Class 9 Environmentally Hazardous) by IATA and IMDG respectively. See details below and in Section 14 of this SDS.

Classification of the substance or mixture:

Flammable Liquids Category 4
Acute Oral Toxicity Category 4
Eye Irritation Category 2
Skin Sensitisation Category 1B
Carcinogenicity Category 2
Specific Target Organ Toxicity Repeated Exposure Category 1
Aspiration Hazard Category 1





The following health hazard categories fall outside the scope of the Workplace Health and Safety Regulations

Acute Aquatic Toxicity Category 1
Chronic Aquatic Toxicity Category 1



GHS Signal word: DANGER

HAZARD STATEMENT(S):

H227: Combustible liquid.



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H302: Harmful if swallowed.

H304: May be fatal if swallowed and enters airways.

H317: May cause an allergic skin reaction.

H320: Causes eye irritation.

H351: Suspected of causing cancer.

H372: Causes damage to the nervous system through prolonged or repeated exposure.

H400: Very toxic to aquatic life

H410: Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENT(S):

PREVENTION

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260 Do not breathe mist or vapours.

P261: Avoid breathing fumes, mists, vapours or spray.

P264: Wash contacted areas thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P272: Contaminated work clothing should not be allowed out of the workplace.

P273: Avoid release to the environment.

P280: Wear protective gloves, protective clothing and eye or face protection.

RESPONSE

P301+P312: IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.

P302 + P352: IF ON SKIN: Wash with plenty of water.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313: If exposed or concerned: Get medical advice.

P314 Get medical advice if you feel unwell.

P321: Specific treatment (see on the label).

P330: Rinse mouth.

P331: Do NOT induce vomiting.

P333 + P313: If skin irritation or rash occurs: Get medical advice.

P337+P313: If eye irritation persists: Get medical advice.

P362 + P364 Take off contaminated clothing and wash it before reuse.

P391: Collect spillage.

P370+P378: In case of fire, product does not burn. Use extinguishing media suited to surrounding materials.

STORAGE

P403 Store in a well-ventilated place.

P405: Store locked up.

DISPOSAL

P501: Dispose of contents and containers as specified on the registered label.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc. (% w/v)
Bifenthrin	82657-04-3	10.0
Liquid hydrocarbon	64742-94-5	76.3

Other components are not considered hazardous in this formulation and therefore are not required to be disclosed according to the WHS Regulations.

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.



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Inhalation: Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. If breathing problems develop or if in doubt contact a Poisons Information Centre or a doctor.

Skin Contact: Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until chemical is removed.

Eye Contact: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses.

Ingestion: If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

First Aid Facilities: Eyewash and normal washroom facilities. Safety deluge showers should, if practical, be provided near to where this product is being used.

Major Health Hazards: Bifenthrin is harmful to mammals when ingested. Large doses may cause incoordination, tremor, salivation, vomiting, diarrhoea, and irritability to sound and touch. Although Bifenthrin does not cause inflammation or irritation on human skin, it can cause a tingling sensation which lasts about 12 hours. It is harmful if swallowed, irritating to eyes and repeated exposure may cause skin dryness or cracking.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. This product does not burn. There is no risk of an explosion from this product if commercial quantities are involved in a fire.

Flammability Class: Product is a C1 combustible liquid.

Suitable Extinguishing Media: In case of fire, use carbon dioxide, dry chemical, foam, water fog. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used. Try to contain spills, minimise spillage entering drains or water courses.

Special Protective Equipment and Precautions for Fire Fighters: When fighting a major fire wear self-contained breathing apparatus and protective equipment.

Hazchem Code: •3Z (bulk transport only)

Section 6 - Accidental Release Measures

Environmental precautions: In the event of a major spill, prevent spillage from entering drains or water courses with absorbent material. Because of the environmentally hazardous nature of this product, special care should be taken to restrict release to waterways or drains.

Methods and materials for containment and cleaning up: Stop leak if safe to do so and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this SDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal.

Personal precautions, protective equipment and emergency procedures: Wear full protective chemically resistant clothing including eye/face protection, gauntlets and self-contained breathing apparatus. All skin areas should be covered. Suitable materials for protective clothing include PVC, Nitrile. Use impermeable gloves with care. Eye/face protective equipment should comprise, as a minimum, protective goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. It should be fitted with a type A cartridge, suitable for organic vapours. Refer to section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.



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If a significant quantity of material enters drains, advise emergency services.

Section 7 - Handling and Storage

Precautions for Safe Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS 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.

Conditions for Safe Storage: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.

Section 8 - Exposure Controls and Personal Protection

Exposure Standards: Exposure limits have not been established by SWA for any of the significant ingredients in this product.

Engineering Controls: Ensure adequate ventilation of the working area.

Respiratory Protection: Usually, no respirator is necessary when using this product under normal and intended conditions of product use. If ventilation is inadequate, use suitable respiratory protection, consult AS/NZS 1715 and AS/NZS 1716 for further information.

Eye and Face Protection: Eye protection such as protective glasses or goggles must be worn when this product is being used. See Australian/New Zealand Standard Industrial Eye Protection: AS1336 and AS/NZS 1337 for more information. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used.

Skin Protection: Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. Use PVC or rubber gloves. See Australian/New Zealand Standard AS/NZS 2161 for more information. When selecting gloves for use against certain chemicals, the degradation resistance, permeation rate and permeation breakthrough time should be considered. Occupational protective clothing (depending on conditions in which it has to be used, in particular as regards the period for which it is worn, which shall be determined on the basis of the seriousness of the risk, the frequency of exposure to the risk, the characteristics of the workstation of each worker and the performance of the protective clothing). See Australian/New Zealand Standard Occupational Protective Clothing: AS/NZS 4501 and Occupational Protective Footwear: AS/NZS2210 for more information.

Section 9 - Physical and Chemical Properties

Physical Description & colour: Light brown liquid.

Odour: Hydrocarbon odour.

Approx 100°C at 100kPa

Flash point: 68°C.

Freezing/Melting Point: No specific data. Liquid at normal temperatures. Volatiles: No specific data. Expected to be low at 100°C.

Vapour Pressure: No data.
Vapour Density: >1

Vapour Density: >1
Specific Gravity: 0.93 approx
Water Solubility: Emulsifiable.

pH: 5-9 (as supplied).

Volatility: No data.
Odour Threshold: No data.
Evaporation Rate: <1
Coeff Oil/water Distribution: No data
Autoignition temp: No data.



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Section 10 - Stability and Reactivity

Possibility of Hazardous Reactions: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf-life properties. This product will not undergo polymerisation reactions.

Conditions to Avoid: Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: strong acids, strong bases, strong oxidising agents.

Hazardous Decomposition Products: Combustion forms small quantities of carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form hydrogen chloride gas, other compounds of chlorine. May form hydrogen fluoride gas and other compounds of fluorine. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Section 11 - Toxicological Information

Acute Toxicity: Based on available data, the product is toxic via oral routes. Product is harmful if swallowed.

Following is the acute toxicity data available for the active constituent Bifenthrin:

Acute oral toxicity - LD50 (Rat, female): 54 mg/kg; LD50 (Rat, male): 70 mg/kg;

Acute dermal toxicity - LD50 (Rabbit) > 2,000 mg/kg

Bifenthrin is harmful to mammals when ingested. Large doses may cause incoordination, tremor, salivation, vomiting, diarrhoea, and irritability to sound and touch. Bifenthrin does not sensitize the skin of guinea pigs. Although it does not cause inflammation or irritation on human skin, it can cause a tingling sensation which lasts about 12 hours. It is virtually non-irritating to rabbit eyes.

This product is an oral irritant. Symptoms may include burning sensation and reddening of skin in mouth and throat. Other symptoms may also become evident, but all should disappear once exposure has ceased.

Skin Corrosion/Irritation: Based on classification principles, the classification criteria are not met.

Serious Eye Damage/Irritation: Based on available data, the product is classified as an eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage.

Respiratory or Skin Sensitisation: Based on available data, the product is classified as skin sensitiser. May cause an allergic skin reaction.

This product causes skin numbness, but further symptoms are not available. In addition, product may be irritating. This product contains Bifenthrin, a dermal sensitiser. Repeated or prolonged exposure may result in sensitisation. Once sensitised, exposure to this product, or any other product containing Bifenthrin, may result in an allergic reaction, which in some cases can be severe.

Germ Cell Mutagenicity: Based on classification principles, the classification criteria are not met. Evidence of mutagenic effects from exposure to Bifenthrin are inconclusive. Studies of mouse white blood cells were positive for gene mutation. However, other tests of bifenthrin's mutagenic effects, including the Ames test and studies in live rat bone marrow cells, were negative.

Carcinogenicity: Based on available data, the product is classified as carcinogenic. Product is suspected of causing cancer.

There was no evidence of cancer in a 2-year study of rats who ate as much as 10 mg/kg/day of Bifenthrin. However, an 87-week feeding study of mice with doses of 7, 29, 71, and 86 mg/kg showed a significantly higher, dose related trend of increased tumour incidence in the male urinary bladder. The incidence was significantly increased at 86 mg/kg/day. Also, females had higher incidences of lung cancer than the controls at doses of 7 mg/kg and higher. The EPA has classified Bifenthrin as a class C carcinogen, a possible human carcinogen.

Reproductive Toxicity: Based on classification principles, the classification criteria are not met. The dose at which no toxic effect of Bifenthrin is observed on the mother (maternal toxicity NOEL) is 1 mg/kg/day for rats and 2.67 mg/kg/day for rabbits. At higher doses, test animals had tremors. The dose at which no toxic effect is observed on development (developmental toxicity NOEL) is 1 mg/kg/day for rats and is greater than 8 mg/kg/day for



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rabbits. Bifenthrin does not demonstrate any teratogenic effects at the highest levels tested (100 ppm, approximately 5.5 mg/kg/day) in a two-generational study in rats.

Specific Target Organ Toxicity (STOT)—single exposure: Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT)—repeated exposure: Product can cause damage to the nervous system through prolonged or repeated exposure.

Pyrethroids are poisons that affect the electrical impulses in nerves, over-stimulating nerve cells causing tremors and eventually causing paralysis.

Aspiration Hazard: Product is classified as an aspiration hazard and may be fatal if swallowed and enters airways.

Chronic Health Effects: No information Available.

Additional toxicological information: The ADI for Bifenthrin is set at 0.01mg/kg/day. The corresponding NOEL is set at 1mg/kg/day (Data from Australian ADI List, Dec 2012).

Fate in Humans and Animals: Bifenthrin is absorbed through intact skin when applied topically. It undergoes similar modes of breakdown within animal systems as other pyrethroid insecticides. In mammals, Bifenthrin is rapidly broken down and promptly excreted. Rats treated with 4 to 5 mg/kg, excreted 70 % in the urine and 20% in the faeces within 7 days. After 7 days, the remaining Bifenthrin was found accumulated in tissues with high fat content such as the skin and fat in males and females and the ovaries of females. Bifenthrin is less toxic to warm-blooded animals, such as mammals, than to cold-blooded animals. There is no data to hand indicating any particular target organs.

Section 12 - Ecological Information

Ecotoxicity: Very toxic to aquatic life with long lasting effects.

Toxicity data on Bifenthrin is available:

Very highly toxic to fish, crustaceans and aquatic animals.

Acute Toxicity Fish - LC50 (rainbow trout): 0.00015 mg/l, 96 hrs; LC50 (bluegill) = 0.00035 mg/l, 96 hours; LC50 (daphnia) > 0.0016 mg/l, 48 hrs

Moderately toxic to Birds. There is concern about possible bioaccumulation in birds.

Acute toxicity Birds:

LC50 (Bobwhite quail) > 4450 ppm; LC50 (Mallard duck) > 1280 ppm

LD50 (Bobwhite quail) > 1800 mg/kg; LD50 (Mallard duck) > 2150 mg/kg

Toxicity (other organisms): Toxic to Bees.

Because of its low water solubility and high affinity for soil, Bifenthrin is not likely to be found in aquatic systems.

Persistence and Degradability: This product is not readily biodegradable. However, likely to degrade slowly in the soil or water and not cause long term problems.

Breakdown of Chemical in Soil & Groundwater: Bifenthrin does not move in soils with large amounts of organic matter, clay and silt. It also has a low mobility in sandy soils that are low in organic matter. Bifenthrin is relatively insoluble in water, so there are no concerns about groundwater contamination through leaching. It's half-life in soil, the amount of time it takes to degrade to half of its original concentration, is 7 days to 8 months depending on the soil type and the amount of air in the soil.

Breakdown of Chemical in Vegetation: Bifenthrin is not absorbed by plant foliage, nor does it translocate in the plant.

Bioaccumulative Potential: No information available

Mobility in Soil: Bifenthrin has low water solubility and high affinity for soil. It has a low mobility in soil.

Section 13 - Disposal Considerations

Disposal: Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 http://www.chemclear.com.au/ and for help with the disposal of empty drums, contact DrumMuster http://www.drummuster.com.au/ where you will find contact details for your area.



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Section 14 - Transport Information

Road and Rail Transport

Australian Special Provisions; AU01: Environmentally Hazardous Substances meeting the description of UN 3077 or UN 3082 are not subject to this Code when transported by road or rail in;

(a) packaging's that do not incorporate a receptacle exceeding 500 Kg (L); or

(b) IBCs.

Marine Transport:

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN Number: 3082

Proper Shipping Name or ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (CONTAINS

Technical Name: BIFENTHRIN)

Transport Hazard Class: 9
Packaging Group III
IMDG EMS Fire: F - A
IMDG EMS Spill: S - F
Environmental hazards: Yes.

Additional Information: The marine pollutant mark is not required when transported in sizes of ≤ 5 L or ≤ 5 kg.

Air Transport:

IATA provision SP A197: Environmentally Hazardous Substances meeting the description of UN 3077 or UN 3082 are not subject to this Code when transported air in; packages that have inner packages (plastic bottles, glass bottles, plastic bags) of 5 L for UN3082 and 5 kg for UN3077 or less.

Class 9 Miscellaneous Dangerous Goods shall not be loaded in the same vehicle or packed in the same freight container with Dangerous Goods of Class 1 (Explosives).

Section 15 - Regulatory Information

APVMA Approval no.: 67468

Poison schedule (SUSMP): Schedule 6

AICIS: All the constituents of this material are either listed on the Australian Inventory of Industrial Chemicals (AIIC), not required due the nature of the chemical as they are excluded as an industrial chemical or have been assessed under the Industrial Chemicals Act 1989 as amended.

Section 16 - Other Information

This SDS contains only safety-related information. For other data see product literature.

Issue Date: June 2024

Reason(s) for issue: Five-year update and updated to latest GHS requirements.

Key abbreviations or acronyms:

ADG Code - Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition)

AICIS - Australian Industrial Chemicals Introduction Scheme (formerly NICNAS)

AIIC - Australian Inventory of Industrial Chemicals

APVMA - Agricultural Pesticides and Veterinary Medicines Australia

CAS number - Chemical Abstracts Service Registry Number

GHS - Globally Harmonised System of Classification and Labelling of Chemicals (7th revised edition) 2017

Hazchem Code - Emergency action code of numbers and letters that provide information to emergency services especially firefighters.

IARC - International Agency for Research on Cancer

Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (June 2023)

STEL - Short term exposure limit means the average airborne concentration of a substance calculated over a 15-minute period. The STEL should not be exceeded at any time during a normal eight hour working day.

SUSMP - Standard for the Uniform Scheduling of Medicines & Poisons

SAFETY DATA SHEET



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SWA - Safe Work Australia, formerly ASCC and NOHSC

TGA - Therapeutic Goods Australia

TWA - Time-weighted average means the average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

UN Number - United Nations Number WHS - Workplace Health and Safety

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD STATEMENT: INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS 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.

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" ((June 2023) and GHS Revision 7 Copyright © Sabakem Pty Ltd.