

## Section 1 - Identification of The Material and Supplier

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Phone: 1300 449 255

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**Chemical nature:** Emulsifiable concentrate containing bifenthrin  
**Trade Name:** **F.S.A. Bifenthrin 100 Insecticide/Miticide**  
**APVMA Code:** 87151  
**Product Use:** Agricultural insecticide/miticide for use as described on the product label.  
**Creation Date:** **January, 2019**  
**This version issued:** **February, 2024** and is valid for 5 years from this date.  
**Poisons Information Centre: Phone 13 1126 from anywhere in Australia**

## Section 2 - Hazards Identification

### Statement of Hazardous Nature

**SUSMP Classification:** S6

**ADG Classification:** Class 6.1: Toxic Substances.

**UN Number:** 3352, PYRETHROID PESTICIDE, LIQUID, TOXIC (BIFENTHRIN)



### GHS Signal word: DANGER

Flammable liquids Category 4  
 Acute Toxicity Oral Category 3  
 Aspiration Hazard Category 1  
 Acute Toxicity Inhalation Category 4  
 Carcinogenicity Category 2  
 Hazardous to aquatic environment Short term/Chronic Category 1

#### HAZARD STATEMENT:

H227: Combustible liquid.  
 H301: Toxic if swallowed.  
 H304: May be fatal if swallowed and enters airways.  
 H332: Harmful if inhaled.  
 H351: Suspected of causing cancer.  
 H410: Very toxic to aquatic life with long lasting effects.

#### PREVENTION

P210: Keep away from heat, sparks, open flames and hot surfaces. - No smoking.  
 P261: Avoid breathing fumes, mists, vapours or spray.  
 P262: Do not get in eyes, on skin, or on clothing.  
 P270: Do not eat, drink or smoke when using this product.  
 P271: Use only outdoors or in a well ventilated area.  
 P273: Avoid release to the environment.  
 P280: Wear protective gloves, protective clothing and eye or face protection.

#### RESPONSE

P301+P310: IF SWALLOWED: Immediately call a POISON CENTRE or doctor.  
 P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 P303+P361+P353: IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.  
 P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P391: Collect spillage.  
 P370+P378: In case of fire, use carbon dioxide, dry chemical, foam. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used.

#### STORAGE

P405: Store locked up.  
 P410: Protect from sunlight.  
 P402+P404: Store in a dry place. Store in a closed container.  
 P403+P235: Store in a well-ventilated place. Keep cool.

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**DISPOSAL**

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

### Emergency Overview

**Physical Description & Colour:** Light brown liquid

**Odour:** Characteristic solvent odour.

**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. LD<sub>50</sub>, for Bifenthrin is about 54 mg/kg in female rats and 70 mg/kg in male rats. The LD<sub>50</sub> for rabbits whose skin is exposed to Bifenthrin is greater than 2,000 mg/kg. 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. harmful if swallowed, if aspirated, may cause lung damage.

### Section 3 - Composition/Information on Ingredients

| Ingredients                              | CAS No     | Conc, g/L | TWA (mg/m <sup>3</sup> ) | STEL (mg/m <sup>3</sup> ) |
|--|------------|-----------|--------------------------|---------------------------|
| Bifenthrin                               | 82657-04-3 | 100       | not set                  | not set                   |
| Solvent naphtha (petroleum), light arom. | 64742-95-6 | 763       | not set                  | not set                   |
| Other non hazardous ingredients          | secret     | to 1 L    | not set                  | not set                   |

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

### 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.

**Inhalation:** First aid is not generally required. 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:** No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. 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.

### 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. There is little risk of an explosion from this product if commercial quantities are involved in a fire.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

**Extinguishing Media:** In case of fire, use carbon dioxide, dry chemical or foam. 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.

**Fire Fighting:** 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 full fire kit and breathing apparatus.

**Flammability Class:** Flammable Category 4 (GHS), C1 combustible (AS 1940)

### Section 6 - Accidental Release Measures

**Accidental release:** In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear overalls, goggles and gloves. Suitable materials for protective clothing include no specific manufacturer recommendations. Use impermeable gloves with care. Eye/face protective equipment should comprise, as a minimum, protective glasses and, preferably, 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. Usually, no respirator is necessary

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when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8).

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. Because of the environmentally hazardous nature of this product, special care should be taken to restrict release to waterways or drains. 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. If a significant quantity of material enters drains, advise emergency services. 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. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

## Section 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 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.

**Storage:** This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Check packaging - there may be further storage instructions on the label.

## Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**. Exposure limits have not been established by SWA for any of the significant ingredients in this product.

The ADI for Bifenthrin is set at 0.01mg/kg/day. The corresponding NOEL is set at 1mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data from Australian ADI List, March 2017.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

**Ventilation:** This product should only be used where there is ventilation that is adequate to keep exposure below the TWA levels. If necessary, use a fan.

**Eye Protection:** Eye protection such as protective glasses or goggles is recommended when this product is being used.

**Skin Protection:** You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product for lengthy periods. See below for suitable material types.

**Protective Material Types:** There is no data that enables us to recommend any type except that it should be impermeable.

**Respirator:** Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

Safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

## Section 9 - Physical and Chemical Properties:

|   |  |
|---|--|
| <b>Physical Description &amp; colour:</b> | Light brown liquid                               |
| <b>Odour:</b>                             | Characteristic solvent odour.                    |
| <b>Boiling Point:</b>                     | Not available.                                   |
| <b>Flash point:</b>                       | 65-70°C  |
| <b>Upper Flammability Limit:</b>          | No data.   |
| <b>Lower Flammability Limit:</b>          | No data.   |
| <b>Autoignition temperature:</b>          | No data.   |
| <b>Freezing/Melting Point:</b>            | No specific data. Liquid at normal temperatures. |
| <b>Volatiles:</b>                         | No data.   |
| <b>Vapour Pressure:</b>                   | No data.   |
| <b>Vapour Density:</b>                    | No data.   |
| <b>Specific Gravity:</b>                  | Approx 0.93                                      |
| <b>Water Solubility:</b>                  | Emulsifiable.                                    |

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|                                      |                            |
|--------------------------------------|----------------------------|
| <b>pH:</b>                           | No data.                   |
| <b>Volatility:</b>                   | No data.                   |
| <b>Odour Threshold:</b>              | No data.                   |
| <b>Evaporation Rate:</b>             | No data.                   |
| <b>Coeff Oil/water Distribution:</b> | No data                    |
| <b>Particle Characteristics:</b>     | Not applicable to liquids. |

## Section 10 – Stability and Reactivity

**Reactivity:** 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.

**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.

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

**Fire Decomposition:** Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly 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. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

**Polymerisation:** This product will not undergo polymerisation reactions.

## Section 11 - Toxicological Information

**Toxicity:** Bifenthrin is harmful to mammals when ingested. Large doses may cause incoordination, tremor, salivation, vomiting, diarrhoea, and irritability to sound and touch. LD<sub>50</sub>, for Bifenthrin is about 54 mg/kg in female rats and 70 mg/kg in male rats. The LD<sub>50</sub> for rabbits whose skin is exposed to Bifenthrin is greater than 2,000 mg/kg. 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.

Chronic Toxicity: No information Available.

Reproductive Effects: 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 rabbits.

Teratogenic Effects: 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.

Mutagenic Effects: Evidence of mutagenic effects from exposure to Bifenthrin is 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.

Carcinogenic Effects: There was no evidence of cancer in a 2-year study of rats that 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.

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

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.

Solvent Naphtha (petroleum), Light Arom. is a SWA Class 2 Mutagen, likely to be mutagenic to humans.

Bifenthrin is classed by SWA as a potential sensitiser by skin contact.

## Classification of Hazardous Ingredients

| Ingredient  | Health Hazard Statement Codes      |
|---|------------------------------------|
| Bifenthrin  | H351, H300, H331, H372, H317, H410 |
| <ul style="list-style-type: none"> <li>• Carcinogenicity – category 2</li> <li>• Acute toxicity – category 2</li> <li>• Acute toxicity – category 3</li> <li>• Specific target organ toxicity (repeated exposure) – category 1</li> </ul> |                                    |

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- Skin sensitisation – category 1B
- Hazardous to the aquatic environment (acute) – category 1
- Hazardous to the aquatic environment (chronic) – category 1

Solvent Naphtha (petroleum), Light Arom. H304, H350, H340, H319, H315, H372

- Aspiration hazard – category 1
- Carcinogenicity – category 1A
- Germ cell mutagenicity – category 1B
- Eye irritation – category 2A
- Skin irritation – category 2
- Specific target organ toxicity (repeated exposure) – category 1

## Potential Health Effects

Persons sensitised to bifenthrin should avoid contact with this product.

### Inhalation:

**Short Term Exposure:** Available data indicates that this product is harmful, symptoms not available. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

**Long Term Exposure:** No data for health effects associated with long term inhalation.

### Skin Contact:

**Short Term Exposure:** Available data indicates that this product is not harmful. It should present no hazards in normal use. However product may be irritating, but is unlikely to cause anything more than mild transient discomfort.

**Long Term Exposure:** No data for health effects associated with long term skin exposure.

### Eye Contact:

**Short Term Exposure:** This product may be irritating to eyes, but is unlikely to cause anything more than mild transient discomfort.

**Long Term Exposure:** No data for health effects associated with long term eye exposure.

### Ingestion:

**Short Term Exposure:** Significant oral exposure is considered to be unlikely. Because of the low viscosity of this product, it may directly enter the lungs if swallowed, or if subsequently vomited. Once in the lungs, it is very difficult to remove and can cause severe injury or death. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort. Additionally, product is considered to be toxic if swallowed.

**Long Term Exposure:** No data for health effects associated with long term ingestion.

### Carcinogen Status:

**SWA:** Bifenthrin is classified by SWA as a Category 2 Carcinogen, likely to be carcinogenic to humans.

Solvent Naphtha (petroleum), Light Arom. is classified by SWA as a Category 1b Carcinogen

See the SWA website for further details. A web address has not been provided as addresses frequently change.

**NTP:** No significant ingredient is classified as carcinogenic by NTP.

**IARC:** No significant ingredient is classified as carcinogenic by IARC.

## Section 12 - Ecological Information

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

**Effects on Birds:** Bifenthrin is moderately toxic to many species of birds. The dietary concentration (8 day) at which half of the test animals die, the LC<sub>50</sub>, is 1,280 ppm for mallard ducks and 4,450 ppm for bobwhite quail. The acute oral LD<sub>50</sub> is 1,800 mg/kg for bobwhite quail and 2,150 mg/kg for mallard ducks. There is concern about possible bioaccumulation in birds.

**Effects on Aquatic Organisms:** Bifenthrin is very highly toxic to fish, crustaceans and aquatic animals. The LC<sub>50</sub> after a 96-hour exposure is 0.00015 mg/L for rainbow trout, 0.00035 mg/l for bluegill, and 0.0016 mg/L for Daphnia. Because of its low water solubility and high affinity for soil, Bifenthrin is not likely to be found in aquatic systems.

**Effects on Other Animals (Nontarget species):** Bifenthrin is toxic to bees.

### ENVIRONMENTAL FATE

**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. Its 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.

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### 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.

### Section 14 - Transport Information

**Dangerous according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.**

**UN Number:** 3352, PYRETHROID PESTICIDE, LIQUID, TOXIC (BIFENTHRIN)

**Hazchem Code:** 2X

**Special Provisions:** 61, 223, 274

**Limited quantities:** ADG 7 specifies a Limited Quantity value of 5 L for this class of product.

**Dangerous Goods Class:** Class 6.1: Toxic Substances.

**Packing Group:** III

**Packing Instruction:** P001, IBC03, LP01

Class 6 Toxic Substances shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 3 (Flammable Liquids where the Flammable Liquid is nitromethane), 5.1 (Oxidising Agents where the Toxic Substances are Fire Risk Substances), 5.2 (Organic Peroxides where the Toxic Substances are Fire Risk Substances), 8 (Corrosive Substances where the Toxic Substances are cyanides and the Corrosives are acids), Foodstuffs and foodstuff empties. They may however be loaded in the same vehicle or packed in the same freight container with Classes, 2.1 (Flammable Gases), 2.2 (Non-Flammable, Non-Toxic Gases), 2.3 (Toxic Gases), 3 (Flammable liquids, except where the flammable liquid is nitromethane), 4.1 (Flammable Solids), 4.2 (Spontaneously Combustible Substances), 4.3 (Dangerous When Wet Substances), 5.1 (Oxidising Agents except where the Toxic Substances are Fire Risk Substances), 5.2 (Organic Peroxides except where the Toxic Substances are Fire Risk Substances), 7 (Radioactive Substances), 8 (Corrosive Substances except where the Toxic Substances are cyanides and the Corrosives are acids), 9 (Miscellaneous Dangerous Goods)

### Section 15 - Regulatory Information

**AIC:** All of the significant ingredients in this formulation are compliant with AICIS regulations.

The following ingredient: Bifenthrin, is mentioned in the SUSMP.

### Section 16 - Other Information

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

THIS SDS 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 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" (July 2020) and GHS Revision 7

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