



SAFETY DATA SHEET

According to Safe Work Australia

Issue date 26.03.2020

1. IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

Product Name: 4FARMERS Bifenthrin 300 EC Insecticide**Other Means of Identification:** Mixture**Recommended Use of the Chemical and Restriction on Use:** Agricultural insecticide**Details of Manufacturer or Importer:**4Farmers Australia Pty Ltd
70 McDowell Street
Welshpool WA 6106**Phone Number:** +61 8 9356 3445**Emergency telephone number:** National Poison Information Centre: 13 11 26

2. HAZARDS IDENTIFICATION

SUSMP Classification: Schedule 7**ADG Classification:** Class 6.1: Toxic substances.**UN Number:** 3352, PYRETHROID PESTICIDE, LIQUID, TOXIC**GHS:****Signal Word: DANGER**

Carcinogenic – Category 2

Acute Toxicity (inhalation) – Category 3

Acute toxicity (Oral) – Category 3

Specific Target Organ toxicity (Repeated Exposures) – Category 1

Hazardous to the Aquatic Environment (Acute) – Category 1

Hazardous to the Aquatic Environment (Chronic) – Category 1

Hazard Statements:

H227: Combustible liquid

H301: Toxic if swallowed

H317: May cause an allergic reaction.

H331: Toxic if inhaled.

H351: Suspected of causing cancer

H372: May cause damage to the nervous system through prolonged or repeated exposure

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

Precautionary Statements:

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

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

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P264 Wash ... thoroughly after handling.

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

P271 Use only outdoors or in a well-ventilated area.

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- P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response Statements:

- P314 Get medical advice/attention if you feel unwell.
P363 Wash contaminated clothing before reuse.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/.
P302+P352 IF ON SKIN: wash with plenty of water.
P333+P313 IF SKIN irritation or rash occurs: Get medical advice/attention.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P391 Collect spillage.

Storage Statements:

- P405 Store locked up.
P403+P233+P235 Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P403+P235 Store in a well-ventilated place. Keep cool.

Disposal Statements:

- P501 Dispose of contents/container as specified on the registration label.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Ingredients	CAS No	Conc , (w/w %)	TWA (mg/m ³)	STEL (mg/m ³)
Bifenthrin	82657-04-3	25-35	Not set	Not set
Solvent naphtha (petroleum), light aliphatic	64742-94-5	>60	Not set	Not set
2-ethylhexanol	104-76-7	<10	18	Not set
Other non hazardous ingredients	-	to 100	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.

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 MSDS with you when you call.

Inhalation:

No first aid measures normally required. However, if inhalation has occurred, and irritation has developed, remove to fresh air and observe until recovered. If irritation becomes painful or persists more than about 30 minutes, seek medical advice

Skin Contact:

Wash gently and thoroughly with warm water (use non-abrasive soap if necessary) for 10-20 minutes or until product is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts) and completely decontaminate them before reuse or discard. If irritation persists, repeat flushing and seek medical attention.

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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.

5. FIRE FIGHTING MEASURES

Fire and Explosion Hazard: This product is classified as a C1 combustible liquid. There is a slight 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 may be toxic if inhaled. Take appropriate protective measures.

Suitable Extinguishing Media: Preferred extinguishing media are carbon dioxide, dry chemical, foam, water fog.

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 liquid-tight chemical protective clothing and breathing apparatus.

Flash Point: Approximate 65 – 70 °C

Upper Flammability Limit: No Data

Lower Flammability: No Data

Auto ignition temperature: No Data

Flammability Class: C1

6. ACCIDENTAL RELEASE MEASURES

In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include rubber, PVC. 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 G cartridge, suitable for agricultural chemicals. Otherwise, not normally necessary.

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. 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 MSDS 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.

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7. HANDLING AND STORAGE

Handling:

Keep exposure to this product to a minimum, and minimize 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 minimize 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 minimize contamination. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. If you keep more than 10000kg 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

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**.

SWA Exposure Limits

TWA (mg/m3)

STEL (mg/m3)

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 and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Sept 2011.

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: No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that Vapours and mists are minimized.

Eye Protection: Protective glasses or goggles should be worn when this product is being used. 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. See below for suitable material types.

Protective Material Types: We suggest that protective clothing be made from the following: rubber, PVC.

Respirator: 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Description and colour:	Light brown clear liquid
Odour:	Characteristic solvent odour
Boiling Point:	Not determined
Freezing/Melting point:	<0 °C
Volatiles:	No data

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Vapour Pressure:	No data
Vapour Density:	No data
Specific Gravity:	Approximately 1.0
Water Solubility:	Emulsifies
pH:	No data
Volatility:	No data
Odour Threshold:	No data
Evaporation Rate:	No data
Coeff Oil/Water Distribution:	No data
Autoignition temperature:	No data

10. STABILITY AND REACTIVITY

Reactivity: Product is stable for at least 2 years under recommended storage conditions.

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 oxidizing agents.

Fire Decomposition: In the event of fire decomposition products include oxides of carbon, hydrogen fluoride, fluorine and other hazardous decomposition products.

Polymerization: This product will not undergo polymerization reactions

11. TOXICOLOGICAL INFORMATION

Toxicity: Bifenthrin is harmful to mammals when ingested. Large doses may cause incoordination, tremor, salivation, vomiting, diarrhea, and irritability to sound and touch. LD50, for Bifenthrin is about 54 mg/kg in female rats and 70 mg/kg in male rats. The LD50 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 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.

Carcinogenic Effects: 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 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.

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12. ECOLOGICAL INFORMATION

This product is very toxic to aquatic organisms. This product is toxic to bees. 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 LC50, is 1,280 ppm for mallard ducks and 4,450 ppm for bobwhite quail. The acute oral LD50 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 LC50 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 (Non target 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.

Birds: LD50 mallard: 2150mg/kg

LD50 quail: 1800mg/kg

Fish: LC50 rainbow trout: 0.00015mg/L

LC50 bluegill sunfish: 0.00035mg/L

Bees: LD50 0.1µg/bee

Daphnia: EC50 0.00016mg/L

13. DISPOSAL CONSIDERATIONS

Disposal: There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. The Hierarchy of Controls seems to be common - the user should investigate: Reduce, Reuse, and Recycle and only if all else fails should disposal be considered. Note that properties of a product may change in use, so that the following suggestions may not always be appropriate. The following may help you in properly addressing this matter for this product. 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.

14. TRANSPORT INFORMATION

Dangerous according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/SBC criteria

UN Number: 3352, PYRETHROID PESTICIDE, LIQUID, TOXIC

Hazchem Code: 2X

Special Provision: 61, 223, 27

Dangerous Good Class: Class 6.1: toxic substances

Packaging Group: III

Packaging Instruction: P001, IBC03, LP01

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15. REGULATORY INFORMATION

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

The following ingredients: Bifenthrin, solvent naphtha (petroleum), light aliphatic and 2-ethylhexanol are mentioned in the SUSMP.

16. OTHER INFORMATION

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

Abbreviations and acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods Road and Rail (7 th Edition)
AICS	Australian Inventory of Chemical Substances
CAS Number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially fire fighters
IARC	International Agency for Research on Cancer
SWA	Safe Work Australia, formerly ASCC and NOHSC
NOS	Not otherwise specified
NTP	National Toxicity Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nation Number

Date of Preparation: 26.03.2020

Disclaimer

This SDS is prepared in accord with the Safe Work Australia document "Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals – Feb 2016"

The information contained in this safety data sheet is provided in good faith and is believed to be accurate at the date of issuance. 4Farmers Australia Pty Ltd makes no representation of the accuracy or comprehensiveness of the information and to the full extent allowed by law excludes all liability for any loss or damage related to the supply or use of the information in this material safety data sheet. 4Farmer Australia Pty Ltd is not in a position to warrant the accuracy of the data herein. The user is cautioned to make their own determinations as to the suitability of the information provided to the particular circumstances in which the product is used.

Please read all labels carefully before using this product.

END OF DOCUMENT.

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