

SAFETY DATA SHEET

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **AgMerch Bifenthrin 100 EC Insecticide**

Other Names: Bifenthrin, Group 3A Insecticide.
Use: A liquid broad spectrum insecticide and termiticide.
Company: AgMerch Pty Ltd
Address: 217 Wyndham Street, Shepparton, Vic 3630
ACN/ABN: 26 645 371 017
Email: info@agmerch.com.au
Emergency Contact: 0498 530 214

SECTION 2 HAZARDS IDENTIFICATION

**Classified as Hazardous according to criteria of Safe Work Australia.
Not classified as a Dangerous Good according to the ADG Code*.**

* Not subjected to the ADG code when transported in Australia by Road or Rail in packages 500 kg (L) or less; or in IBC's (refer to SP AU01). However, if transported by Air or Sea, this provision does not apply. Then the product is classed as Dangerous (Class 9 Environmentally Hazardous) by IATA and IMDG respectively. See Section 14 of this SDS for details.

Globally Harmonised System (GHS) classification of the substance/mixture:

Flammable Liquids: Hazard Category 4.
Acute Toxicity Oral: Hazard Category 3.
Skin Irritation: Hazard Category 2.
Skin Sensitisation: Hazard Category 1.
Serious eye damage: Hazard Category 1.
Carcinogenicity: Hazard Category 2.
Reproductive Toxicity: Hazard Category 1.
Specific Target Organ toxicity - repeated exposure: Hazard Category 1.
Hazardous to Aquatic Environment – Long Term (Chronic) hazard: Hazard Category 1.

Signal Word: DANGER.

Hazard Statements:

H227 Combustible liquid.
H301 Toxic if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements:

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, vapours or spray.
P262 Do not get in eyes, on skin, or on clothing.
P264 Wash contacted areas thoroughly after handling.

SECTION 2 HAZARDS IDENTIFICATION (Continued)**Prevention (Cont):**

- 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.
- 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.

Response:

- P314 Get medical advice or attention if you feel unwell.
 P363 Wash contaminated clothing before reuse.
 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.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P333 + P313 If skin irritation or rash occurs: Get medical advice.
 P337 + P313 If eye irritation persists: Get medical advice.
 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.

Disposal:

- P501 Dispose of contents/container in accordance with national regulations.

Pictograms:**SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS****Ingredients:**

CHEMICAL	CAS NUMBER	PROPORTION
Bifenthrin	82657-04-3	100 g/L
Liquid hydrocarbon	64742-88-7	605 g/L
N-Methyl-2-Pyrrolidone	872-50-4	50 g/L
Other ingredients determined not to be hazardous (including water)		Balance

SECTION 4 FIRST AID MEASURES**FIRST AID**

Ingestion: If swallowed do NOT induce vomiting. Wash mouth with water. If poisoning occurs, contact a doctor or Poisons Information Centre. Phone 131 126.

SECTION 4 FIRST AID MEASURES (Continued)

Eye contact: Immediately hold eyes open and flush gently with clean water until chemical is removed. Ensure irrigation under eyelids by occasionally lifting them. Do not try to remove contact lenses unless trained. If irritation persists, seek medical advice.

Skin contact: Immediately wash skin with soap and water to remove chemical. If skin is irritated, seek medical advice. Remove contaminated clothing. Launder contaminated clothing before re-use.

Inhalation: Remove to fresh air and observe until recovered. If effects persist, seek medical advice.

Advice to Doctor: Bifenthrin the active ingredient in this product is a pyrethroid insecticide. Treatment is otherwise symptomatic and supportive.

SECTION 5 FIRE FIGHTING MEASURES

Specific Hazard: Product is combustible. Flash point > 61°C.

Extinguishing media: Extinguish fire using carbon dioxide, dry chemical, foam. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used. Contain spills, and stop spillage entering drains or water courses.

Hazards from combustion products: Thermal decomposition and burning may produce toxic by-products. Firefighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or smoke.

Precautions for fire-fighters and special protective equipment: Isolate fire area. Evacuate downwind residents. Wear full protective clothing and self-contained breathing apparatus. Do not breathe smoke or vapours generated.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Emergency procedures: Isolate and post spill area. Keep out unprotected persons and animals. As a minimum wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length PVC, neoprene or nitrile gloves, face shield or goggles and chemical resistant footwear. In the case of spillage, stop leak if safe to do so, and contain spill. Prevent spillage entering drains or watercourses. Contain and absorb spilled material with absorbent material such as sand, clay, cat litter or material such as vermiculite. Collect recoverable product for use as labelled on the product. Vacuum, shovel or pump contaminated spilled material into an approved container and dispose of waste as per the requirements of Local or State Waste Management Authorities. Keep out animals and unprotected persons. Launder protective clothing before storage or re-use.

Material and methods for containment and cleanup procedures: To clean spill area, tools and equipment, wash with a solution of soap, water and acetic acid/vinegar. Follow this with a neutralisation step of washing the area with a bleach or caustic soda ash solution. Finally, wash with a strong soap and water solution. Absorb, as above, any excess liquid and add both solutions to the drums of waste already collected.

Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.

SECTION 7 HANDLING AND STORAGE

Precautions for Safe Handling: Poisonous if swallowed. Will damage eyes and will irritate the skin. Avoid contact with eyes and skin. Do not inhale vapour or spray mist. When opening the container and preparing spray, wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length PVC, neoprene or nitrile gloves, face shield or goggles and chemical resistant footwear. When using the prepared spray, wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length PVC, neoprene or nitrile gloves and chemical resistant footwear. When using in enclosed areas, wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length PVC, neoprene or nitrile gloves, chemical resistant footwear and half facepiece respirator with combined dust and gas cartridge. If clothing becomes contaminated with product or wet with spray, remove clothing immediately. If product or spray on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap

SECTION 7 HANDLING AND STORAGE (Continued)

and water. After each day's use, wash gloves, face shield or goggles, respirator (and if rubber wash with detergent and warm water) and contaminated clothing.

Conditions for Safe Storage: Store in the closed, original container in a well-ventilated area away from children, animals, food, feedstuffs, seed and fertilisers. Do not store for prolonged periods in direct sunlight. Not classified as a Dangerous Good. This product is a Schedule 6 Poison (S6) and must be stored, transported and sold in accordance with the relevant Health Department regulations.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**Exposure Guidelines:**

Exposure guidelines have not been established for this product by Safe Work Australia, however the following guideline applies to one of the excipients in this product.

Atmospheric Contaminant	Exposure Standard (TWA)	STEL (mg/m ³)
N-methyl pyrrolidone (Skin*)	1 mg/m ³	

Biological Limit Values:

No biological limit allocated.

Engineering controls:

Use in ventilated areas. Keep containers closed when not in use.

Personal Protective Equipment (PPE):

General: When opening the container and preparing spray, wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length PVC, neoprene or nitrile gloves, face shield or goggles and chemical resistant footwear. When using the prepared spray, wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length PVC, neoprene or nitrile gloves and chemical resistant footwear. When using in enclosed areas, wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length PVC, neoprene or nitrile gloves, chemical resistant footwear and half facepiece respirator with combined dust and gas cartridge. . If clothing becomes contaminated with product or wet with spray, remove clothing immediately. If product or spray on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water.

Personal Hygiene: Poisonous if swallowed. Will damage eyes and will irritate the skin. Avoid contact with eyes and skin. Do not inhale vapour or spray mist. Clean water should be available for washing in case of eye or skin contamination. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield or goggles, respirator (and if rubber wash with detergent and warm water) and contaminated clothing.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White, opaque liquid.
Odour:	Characteristic odour.
Boiling point:	No data.
Freezing point:	No data.
Specific Gravity:	Approximately 0.9
Solubility in Water:	Product emulsifies in water.
pH:	No data available.
Flammability:	Combustible liquid.
Flash point:	> 61°C
Poisons Schedule:	Product is a Schedule 6 poison.
Formulation type:	Emulsifiable Concentrate (EC).
Corrosive hazard:	Not corrosive.

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: Product is considered stable in ambient conditions for a period of at least 2 years after manufacture.

Conditions to avoid: Do not store for prolonged periods in direct sunlight.

SECTION 10 STABILITY AND REACTIVITY (Continued)

Incompatible materials: Strong oxidising agents.

Hazardous decomposition products: When the product is heated to high temperatures, the product will decompose and emit toxic fumes.

Hazardous reactions: Hazardous polymerisation will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

No specific data is available for this product as no toxicity tests have been conducted on this product. Information presented is our best judgement based on similar products and/or individual components. As with all products for which limited data is available, caution must be exercised through the use of protective equipment and handling procedures to minimise exposure.

Potential Health Effects:**ACUTE EFFECTS**

Swallowed: This product is harmful if swallowed; the acute oral LD₅₀ (rat) = 505 mg/kg (calculated).

Eye: This product is irritating to the eyes. Symptoms may include stinging and reddening of eyes and watering. If exposure is brief, symptoms should disappear once exposure has ceased.

Skin: This product has a low dermal toxicity. The dermal LD₅₀ (rabbit) > 2000 mg/kg. May cause skin irritation. Skin sensitising may occur in sensitive individuals.

Inhaled: This product is harmful if inhaled. Acute inhalation LC₅₀ = 8.7 mg/L/4 hour (calculated).

Long Term Exposure:

Chronic toxicity: No data available on this formulation. In studies with laboratory animals, Bifenthrin Technical did not cause teratogenicity or reproductive toxicity. Tremors were associated with repeated exposure of dogs, rats, rabbits and mice to Bifenthrin. The overall results from a battery of genotoxicity studies indicate that Bifenthrin is not considered to be genotoxic. Ames test results were negative.

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.

Safe Work Australia has classified bifenthrin in the occupational environment as a suspected human carcinogen - Category 2 substance. This means that there is not sufficient data to classify bifenthrin as a Category 1 substance, but there is limited evidence of carcinogenicity in animal studies.

Safe Work Australia has classified N-Methyl-Pyrrolidone in the occupational environment as a reproduction category 2 substance – which indicates that there is sufficient evidence to provide a strong presumption that human exposure to the substance may result in impaired fertility.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Toxicology: The active ingredient, Bifenthrin, is highly toxic to fish and aquatic arthropods with LC₅₀ values ranging from 0.0038 µg/L to 17.8 µg/L. In general, the aquatic arthropods are the most sensitive species. Care should be taken to avoid contamination of the aquatic environment. Bifenthrin had no effect on molluscs at its limit of water solubility. Bifenthrin is only slightly toxic to both waterfowl and upland game birds with LC₅₀ values range from 1800 mg/kg to > 2,150 mg/kg. Do not contaminate sewers, drains, dams, creeks or any other waterways with product or the used container.

SECTION 12 ECOLOGICAL INFORMATION (Continued)**Environmental Fate:**

The active ingredient, Bifenthrin, degrades at a moderate rate in agricultural soils ($t_{1/2}$ = 50 to 205 days), and more rapidly on the surface of bare soils ($t_{1/2}$ = 7 to 62 days). Bifenthrin is tightly bound in most soils and has extremely low water solubility.

SECTION 13 DISPOSAL CONSIDERATIONS

Spills and Disposal: Persons involved in cleanup require adequate skin protection - wear protective waterproof clothing, elbow length PVC or nitrile gloves and water-resistant footwear. Keep out animals and unprotected persons. Keep material out of streams and sewers. Vacuum, shovel or pump waste into an approved drum. To decontaminate spill area, tools and equipment, wash with detergent and water and add the solution to the drums of wastes already collected and label contents. Dispose of drummed wastes, including decontamination solution in accordance with the requirements of Local or State Waste Management Authorities.

Disposal of empty containers: Triple-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 deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm 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.

SECTION 14 TRANSPORT INFORMATION

Road & Rail Transport: AgMerch Bifenthrin 100 EC Insecticide is exempt from classification as a Dangerous Good in packs 500 kg (L) or less; or in IBC's under the Australian Code for the Transport of Dangerous Goods by Road and Rail. (See special provision AU01). For bulk shipments this product is a class 9, UN 3082, the full classification is provided below.

Marine and Air Transport: AgMerch Bifenthrin 100 EC Insecticide is a Marine Pollutant according to International Maritime Dangerous Goods (IMDG) Code and the International Air Transport Association (IATA). If transporting by sea or air the following Dangerous Goods Classification applies:- UN 3082, Class 9 (Miscellaneous Dangerous Goods), Packing Group III, Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains 10% Bifenthrin).

SECTION 15 REGULATORY INFORMATION

Under the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP), this product is a Schedule 6 poison.

This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. Product Registration No. 91712.

This product is classified as a Hazardous Substance under the criteria of Safe Work Australia.

This product is not classified as a Dangerous Good according to the ADG Code for packs 500 kg (L) or less; or in IBC's (SP AU01) (7th Ed).

Requirements concerning special training:

Check State or Territory regulations that require people who use pesticides in their job or business to have training in the application of the materials.

SECTION 16 OTHER INFORMATION

Issue Date: 15 June 2022. Valid for 5 years till 15 June 2027. (First issue).

Key to abbreviations and acronyms used in this MSDS:

ADG Code: Australian Dangerous Goods Code (for the transport of dangerous goods by Road and Rail).

Carcinogen: An agent which is responsible for the formation of a cancer.

Genotoxic: Capable of causing damage to genetic material, such as DNA.

SECTION 16 OTHER INFORMATION (Continued)

HCIS:	Hazardous Chemical Information System.
Lacrimation:	The production, secretion, and shedding of tears.
Lavage:	A general term referring to cleaning or rinsing.
Mutagen:	An agent capable of producing a mutation.
Pneumonitis:	A general term that refers to inflammation of lung tissue.
PPE:	Personal protective equipment.
Teratogen:	An agent capable of causing abnormalities in a developing foetus.
TWA:	The Time Weighted Average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.
Safe Work Australia:	Australian government statutory body established in 2008 to develop national policy relating to Worker Health & Safety and workers' compensation.

References

1. "Hazardous Chemicals Information System". Safe Work Australia HCIS website. (2022).
2. "Classifying Hazardous Substances" Safe Work Australia. August 2018.
3. Globally Harmonized System of Classification and Labelling of Chemicals (GHS). United Nations, 2017 (7th Ed).

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 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.

End SDS