SAFETY DATA SHEET

Date of Issue: June 2021
SDS No. FMC/BIFUL/2

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: BIFLEX® ULTRA-LO-ODOUR TERMITICIDE & INSECTICIDE

Other Names: Biflex Ultra. Bifenthrin.
Use: Termiticide and insecticide in buildings and other structures.
Company: FMC Australasia Pty Ltd.
Address: 12 Julius Avenue, North Ryde, NSW 1670
Telephone Number: 02 9887 0900 **Fax Number:** 02 9887 0911
Emergency Telephone Number: 1800 033 111 (All hours - Australia wide).

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.
Combustible Liquid (C1).

GHS Classification:
Acute Toxicity – Oral: Category 4
Acute Toxicity – Inhalation: Category 4.
Eye damage-irritation: Category 1
Aspiration hazard: Category 1.

Signal Word: DANGER

Hazard Statements:
H302 Harmful if swallowed.
H318 Causes serious eye damage.
H332 Harmful if inhaled.

Precautionary statements:
Prevention:
P261 Avoid breathing mist/vapours or spray.
P264 Wash hands arms and face thoroughly after handling.
P270 Do not eat drink or smoke when using this product.
P271 Use only outdoors or in a well ventilated area.
P280 Wear protective equipment (see section 7).

Response:

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if feel unwell.
P304 + 340	IF INHALED: remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P330	Rinse mouth.
P331	DO NOT induce vomiting.
P310	Immediately call a POISON CENTER or doctor/physician.

SECTION 2 HAZARDS IDENTIFICATION (Continued)

Storage and Disposal:

P405 Store locked up.

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 Hydrocarbons	64742-47-8	> 60% w/w
Emulsifier	Mixture	1 – 10%
Other ingredients determined not to be hazardous	mixture	10 - 30 % w/w

SECTION 4 FIRST AID MEASURES

FIRST AID

Swallowed: If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26. If swallowed, **do not** induce vomiting. Give a glass of water. If any discomfort persists seek medical advice.

Eye: If in eyes, hold eyes open and flush with water until chemical is removed. If irritation occurs and persists, obtain medical attention.

Skin: If on skin wash with plenty of soap and water. Remove contaminated clothing. If irritation occurs and persists see a doctor. Launder contaminated clothing before re-use.

Inhaled: Remove patient to fresh air. If breathing discomfort occurs, obtain medical attention.

Advice to Doctors: Bifenthrin the active ingredient in this product is a pyrethroid insecticide. The formulation also contains petroleum distillate - if ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Consideration should be given to gastric lavage with an endotracheal tube in place. Treat appropriately.

SECTION 5 FIRE FIGHTING MEASURES

Specific Hazard: Product is a combustible liquid. Flash point 94°C.
Extinguishing media: Foam, CO_2 or dry chemical. Soft stream water fog if no alternatives. Contain all runoff.
Hazards from combustion products: On burning will emit toxic fumes of carbon monoxide, carbon dioxide, hydrogen chloride, chlorine, fluorine and hydrogen fluoride etc.
Precautions for fire-fighters and special protective equipment: Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe or contact smoke, gases or vapours generated.

SECTION 6 ACCIDENTIAL RELEASE MEASURES

Emergency procedures: Isolate and post spill area. Keep out unprotected persons and animals. Wear prescribed protective clothing and equipment. Large spills should be dyked or covered to prevent dispersal. Vacuum shovel or pump spilled material into an approved container and dispose of as listed in section 13.

SECTION 6 ACCIDENTIAL RELEASE MEASURES (Continued)

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: Ensure containers are kept closed until using product. 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 container and preparing spray, wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length chemical resistant 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 chemical resistant gloves, chemical resistant footwear. When using in enclosed areas, wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow length chemical resistant gloves, chemical resistant footwear and half- face respirator with the 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 and water. After each day's use, wash gloves, face shield or goggles, respirator (if rubber wash with detergent and warm water) and contaminated clothing.

Conditions for Safe Storage: DO NOT store near (or allow to contact) fertilizers, fungicides or pesticides. Store in closed original containers, in a cool, well ventilated area away from children, animals, food and feedstuffs. Do not store for prolonged periods in direct sunlight. Do not store near sources of ignition or naked flames.

This product is classified as a C1 (Combustible Liquid) for the purpose of storage and handling, in accordance with the requirements of AS 1940. Refer to state regulations for storage and transport requirements.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

National Exposure Standards:
No exposure standard for bifenthrin has been established by Safe Work Australia however the manufacturer recommends the following guideline.

Atmospheric Contaminant	Exposure Standard (TWA)	STEL (mg/m³)
Distillates, Petroleum, Hydrotreated Middle	165 ppm (Aerosol)	-

TWA = Time-weight Average STEL = Short Term Exposure Limit

Biological Limit Values:
No biological limit allocated.

Engineering controls:
Use in well ventilated area only. Use local exhaust at all process locations where spray may be emitted. Ventilate all transport vehicles prior to unloading. Keep containers close when not in use.

Personal Protective equipment (PPE):
General: When opening container and preparing spray, wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length chemical resistant 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 chemical resistant gloves, chemical resistant footwear. When using in enclosed areas, wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow length chemical resistant gloves, chemical resistant footwear and half- face respirator with the 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.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)

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

Personal Hygiene: Clean water should be available for washing in case of eye or skin contamination. Wash skin before eating, drinking or smoking. Shower at the end of the workday.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear straw to golden yellow liquid.
Odour:	Aromatic hydrocarbon odour.
Boiling point:	Not available.
Freezing point:	Not available.
Specific Gravity:	Approximately 0.9 g/mL.
pH:	Not available.
Solubility in Water:	Product emulsifies in water.
Flammability:	Combustible liquid (C1).
Corrosive hazard:	Non corrosive; compatible with stainless steel containers & polyethylene used in spray tanks and parts.
Flashpoint (°C):	94°C.
Flammability Limits (%):	Not established.
Poisons Schedule:	Product is a schedule 6 poison.

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. Store away from sources of ignition. Avoid alkaline materials.
Incompatible materials: No particular materials to avoid.
Hazardous decomposition products: On burning will emit toxic fumes of carbon monoxide, carbon dioxide, hydrogen chloride, chlorine, fluorine and hydrogen fluoride etc.
Hazardous reactions: No particular reactions to avoid.

SECTION 11 TOXICOLOGICAL INFORMATION

Potential Health Effects:
Studies with laboratory animals have shown this product to be harmful if swallowed. Ingestion of large doses of bifenthrin by laboratory animals produced signs of toxicity which included clonic convulsions, tremors and bloody nasal discharge. Irritating to eyes and respiratory system.
This formulation also contains liquid hydrocarbons. Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Moderately irritating to the eyes. Contact with the skin may be irritating.

Acute

Swallowed: This product is harmful if swallowed; the acute oral LD_{50} (rat) = 400 - 500 mg/kg (calculated).

Eye: Moderately irritating to the washed eye and severely irritating to the unwashed eye. Product can be absorbed through the eyes.

Skin: This product has a low dermal toxicity. The dermal LD_{50} (rabbit) > 2000 mg/kg. Skin sensitising may occur in sensitive individuals. Skin contact may result in irritation with a degreasing action on the skin. Repeated or prolonged skin contact may lead to irritant contact dermatitis.

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)

Inhaled: This product is harmful if inhaled. Inhalation of liquid hydrocarbon vapours may cause dizziness, and irritation to the eyes, skin and mucous membrane of the respiratory and gastrointestinal tracts. Acute inhalation LC_{50} = 4.9 mg/L/4 hour (Similar formulation).

Chronic: 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. Kidney and liver damage is possible from over-exposure to liquid hydrocarbons over long periods. Additionally, some reversible haematopoietic depression has been observed in animals with extended exposure to liquid hydrocarbons.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Toxicology: The active ingredient, Bifenthrin, is highly toxic to fish and aquatic arthropods with LC_{50} 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 LC_{50} 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.

Environmental Properties: The active ingredient, Bifenthrin, degrades at a moderate rate in agricultural soils (t½ = 50 to 205 days), and more rapidly on the surface of bare soils (t½ = 7 to 62 days). Bifenthrin is tightly bound in most soils and has extremely low water solubility.

SECTION 13 DISPOSAL CONSIDERATIONS

Spills & Disposal: In the case of spillage, contain and absorb spilled material with absorbent material such as sand, clay or cat litter and dispose of waste as indicated below or according to the Australian Standard 2507 - Storage and Handling of Pesticides. Wear prescribed protective clothing and equipment. 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 a suitable solution (i.e. organic solvent, detergent, bleach or caustic soda) and add the solution to the drums of waste already collected. Label for contents. Dispose of drummed wastes, including decontamination solution, in accordance with the requirements of Local or State Waste Management Authorities. Do not cut or weld metal containers. Vapours that form inside may create an explosion hazard.

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

Disposal of empty, non-returnable containers: Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on-site. If recycling, replace cap and return containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If not available bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and roots. Empty containers and product should not be burnt.

SECTION 14 TRANSPORT INFORMATION

Road & Rail Transport: Biflex Ultra is not classified as a Dangerous Goods under the Australian Code for the Transport of Dangerous Goods by Road and Rail in containers less than 3000 litres. Bulk shipments should use UN 3082, as per below. This product is a Combustible Liquid (C1) for storage purposes.

Marine and Air Transport: Biflex Ultra 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

Classified as a hazardous substance according to criteria of Safe Work Australia. (Xi, Xn).
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. 59269.
Product is not classified as a Dangerous Good according to the ADG Code (7th Ed) in containers less than 3000 litres.
Product is classified as a Dangerous Good according to International Maritime Dangerous Goods (IMDG) Code and the International Air Transport Association (IATA).
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: 17 June 2021. Valid for 5 years.

Key to abbreviations and acronyms used in this SDS:

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.
Clonic:	An abnormality in neuromuscular activity characterized by rapidly alternating muscular contraction and relaxation.
Genotoxic:	Capable of causing damage to genetic material, such as DNA.
Haematopoietic:	Pertaining to the formation of blood or blood cells.
Lavage:	The irrigation or washing out of an organ, as of the stomach or bowel.
Mutagen:	An agent capable of producing a mutation.
Oedema:	Accumulation of fluid in tissues.
NOHSC:	National Occupational Health and Safety Commission.
Teratogen:	An agent capable of causing abnormalities in a developing foetus.
Safe Work Australia:	Formally known as Australian Safety & Compensation Council (ASCC) which was formally known as the National Occupational Health & Safety Commission (NOHSC).

References

1. “Search Hazardous Substances”. Safe Work Australia website. (2014).
2. “Approved Criteria for Classifying Hazardous Substances” 3rd Ed. NOHSC Australia. [NOHSC:1008 (2004)]. October 2004.
3. Globally Harmonized System of Classification and Labelling of Chemicals (GHS). United nations, 2009.

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