SAFETY DATA SHEET

Biflex® Mikron Insecticide

SDS # : PL06-0254-1-A
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Version 1

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name Biflex® Mikron Insecticide

Product Code(s) PL06-0254-1-A

Active Ingredient(s) Bifenthrin, Acetamiprid

Chemical Family Pyrethroid Pesticide, Neonicotinoid

Recommended Use: Insecticide

Restrictions on use Use as recommended by the label.

Manufacturer

FMC Australasia Pty Ltd
Building B, Level 2, 12 Julius Avenue,
NORTH RYDE, NSW 2113
Australia : +6161029887900

Emergency telephone

1800 033 111 (Transport Emergency)
1800 033 111 (24 hr Emergency Medical Information)

Section 2: HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Specific target organ toxicity — repeated exposure	Category 2

Label Elements



Signal Word **Warning**

Hazard Statements
H302 - Harmful if swallowed
H332 - Harmful if inhaled
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements - Prevention
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product

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

Precautionary Statements - Response
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
P330 - Rinse mouth
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P312 - Call a POISON CENTER or doctor if you feel unwell
P391 - Collect spillage

Precautionary Statements - Disposal
P501 - Dispose of contents/container according to label directions

Other Information
No additional information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature Mixture.

Chemical name	CAS-No	Weight percent
Bifenthrin	82657-04-3	6
Acetamiprid	135410-20-7	5
Propylene Carbonate S	108-32-7	5-15

Section 4: FIRST AID MEASURES

Inhalation Move to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention.

Skin Contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.

Eye Contact Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison information centre 13 11 26 or doctor for treatment advice.

Ingestion Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not induce vomiting or give anything by mouth to an unconscious person. Call a poison control center or doctor immediately for treatment advice.

Most important symptoms and effects, both acute and delayed Central nervous system effects.

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Indication of immediate medical attention and special treatment needed, if necessary Treat symptomatically.

Notes to doctor: A specific antidote for exposure to this material is not known. Gastriclavage and/or the administration of activated charcoal can be considered. Afterdecontamination, treatment should be directed at the control of symptoms and the clinical condition.

Section 5: FIREFIGHTING MEASURES

Suitable Extinguishing Media Water spray, dry chemical, carbon dioxide (CO_2), or foam. Avoid heavy hose streams.

Unsuitable extinguishing media High volume water jet

Specific Hazards Arising from the Chemical Thermal decomposition can lead to release of irritating gases and vapours.

Hazardous Combustion Products	Carbon oxides, Hydrogen chloride, Hydrogen fluoride, Chlorine, Fluorine.
Protective equipment and precautions for firefighters	Isolate fire area. Evaluate upwind. Dike to prevent runoff. As in any fire, wear self-contained breathing apparatus and full protective gear.
HAZCHEM Emergency Action Code	3Z

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions

It is recommended to have a predetermined plan for the handling of spills. Empty, closable vessels for the collection of spills should be available.

In case of large spill (involving 1 tonnes of the product or more):

1. use personal protection equipment (see Section 8)
2. call emergency telephone number in Section 1.
3. Alert authorities.

Observe all safety precautions when cleaning up spills. Use personal protection equipment. Depending on the magnitude of the spill this may mean wearing respirator, face mask or eye protection, chemical resistant clothing, gloves and rubber boots. Stop the source of the spill immediately if safe to do so. Keep unprotected persons away from the spill area.

Other

For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

Environmental Precautions

Contain the spill to prevent any further contamination of surface, soil or water. Wash waters must be prevented from entering surface water drains. Uncontrolled discharge into water courses must be alerted to the appropriate regulatory body.

Methods for Containment

It is recommended to consider possibilities to prevent damaging effects of spills, such as bunding or capping. Use non-sparking tools and equipment. Nearby surface water drains should be covered. Minor spills on the floor or other impervious surface should immediately be swept up or preferably vacuumed up using equipment with high efficiency final filter. Transfer to suitable containers. Clean area with detergent and water. Do not let wash liquid enter drains or waterways. Absorb wash liquid with an inert absorbent such as universal binder, Fuller’s earth, bentonite or other absorbent clay and collect in suitable containers. The used containers should be properly closed and labelled.

Methods for cleaning up

If appropriate, surface water drains should be covered. Minor spills on the floor or other impervious surface should be swept up or preferably vacuumed up using equipment with high efficiency final filter. Transfer to suitable containers. Clean area with damp cloth and/or strong industrial detergent with much water. Absorb wash liquid onto a suitable absorbent such as universal binder, attapulgite, bentonite or other absorbent clays and transfer contaminated absorbent to suitable containers. The used containers should be properly closed and labelled.
spills which soak into the ground should be dug up and transferred to suitable containers.
in water should be contained as much as possible by isolation of the contaminated water. The contaminated water must be collected and removed for treatment or disposal.

Section 7: HANDLING AND STORAGE

Handling

In an industrial environment, it is recommended to avoid any personal contact with the product, if possible, using remotely controlled systems with remote control. Otherwise, it is recommended to process the material with maximum mechanical means. Adequate ventilation or local exhaust ventilation is required. Exhaust gases must be filtered or treated differently. For personal protection in this situation, see Section 8. Remove contaminated clothing and shoes. Wash thoroughly after handling. Use protective gloves made from chemicals such as nitrile or neoprene. Wash gloves with soap and water before reuse. Check regularly for leaks. Do not dispose into the environment. Do not contaminate water when disposing of the flushing water for equipment. Collect all waste and residues from cleaning equipment, etc. And dispose of them as hazardous waste. See Section 13 for

disposal.

Storage The product is stable under normal conditions of warehouse storage. Protect against extremes of heat and cold. Store in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. A warning sign reading “POISON” is recommended. The room should only be used for storage of chemicals. Food, drink, feed and seed should not be present. A hand wash station should be available.

Materials to avoid Strong oxidising agents. Strong acids. Strong bases.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits
Contains no substances with occupational exposure limit values.

Engineering measures Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Personal protective equipment

Respiratory Protection The product does not automatically present an airborne exposure concern during normal handling. In the event of an accidental discharge of the material which produces a heavy vapour or mist, workers should put on officially approved respiratory protection equipment with a universal filter type including particle filter.

Hand Protection Use protective gloves made of chemical materials such as nitrile or neoprene. Wash the outside of gloves with soap and water before reuse. Check regularly for leaks.

Eye/Face Protection When opening the container and preparing spray, wear goggles and a disposable fume face mask covering mouth and nose.

Skin and Body Protection When opening the container and preparing spray, wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves, goggles and a disposable fume face mask covering mouth and nose.

Hygiene measures Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Remove and wash contaminated clothing before re-use. Launder work clothing separately from regular household laundry.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Viscous liquid, crystalline solid, or waxy solid
Odour	Very faint, Slightly sweet.
Colour	Clear Pale yellow
Odour threshold	No information available
pH	5.51@ 25°C (1% aqueous solution)
Melting point/freezing point	No information available
Boiling point/boiling range	No information available
Flash point	110 °C / 230 °F
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit	No information available
Vapour pressure	No information available
Vapour density	No information available
Specific gravity	1.0648 g/L
Water solubility	No information available

Solubility(ies)	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Molecular weight	No data available
Density	8.89 lb/gal @ 23 °C
Bulk density	No information available

Section 10: STABILITY AND REACTIVITY

Reactivity None under normal use conditions.

Stability Stable under recommended storage conditions

Hazardous reactions None under normal processing.

Hazardous polymerisation Hazardous polymerization does not occur.

Conditions to Avoid Heat, flames and sparks.

Incompatible products Strong oxidising agents. Strong acids. Strong bases.

Hazardous Decomposition Products Carbon oxides, Hydrogen chloride, Hydrogen fluoride. Chlorine. Fluorine.

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Numerical measures of toxicity - Product Information

LD50 Oral	1035 mg/kg (rat)
LD50 Dermal	> 5000 mg/kg (rat)
Inhalation LC50	> 2.2 mg/l 4 hr (rat) - Maximum attainable concentration (zero mortality)
Skin corrosion/irritation	Non-irritating. (rabbit).
Serious eye damage/eye irritation	Non-irritating (rabbit).
Sensitisation	Guinea pig: Non-sensitizing.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Mutagenicity Bifenthrin, Acetamiprid: Not genotoxic in laboratory studies.

Carcinogenicity Bifenthrin: Weak response, treatment related urinary bladder benign tumors (lesions) in male mice only at the highest dose tested. Acetamiprid: No evidence of carcinogenicity from animal studies.
The APVMA considers bifenthrin unlikely to be carcinogenic.

Reproductive toxicity Bifenthrin: No toxicity to reproduction. Acetamiprid: Reductions in pup weight, litter size, viability and weaning indices; delay in sexual maturity endpoints.

Developmental toxicity Bifenthrin, Acetamiprid: Not teratogenic in animal studies.

STOT - single exposure No specific effects after single exposure have been observed.

STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure. See listed target organs below.

Chronic toxicity Bifenthrin: Long-term exposure caused neurotoxicity (tremors and impaired gait) in the early exposure in animal studies, but tremors disappeared with continued exposure. Acetamiprid: Prolonged exposure in animal studies caused nonspecific toxicity observed as decreases in body weight and food consumption.

Target organ effects Bifenthrin: Central Nervous System. Acetamiprid: No specific target organ toxicity; the liver effects were considered an adaptive response to chemicals rather than frank toxicity.

Neurological effects Bifenthrin: Causes clinical signs of neurotoxicity (tremors, impaired gait, excessive salivation) following acute or subchronic exposure. Tremors disappeared with continued exposure. Acetamiprid: Caused clinical signs of neurotoxicity (decreased locomotor activity, tremors) in animal studies.

Symptoms Large doses of bifenthrin ingested by laboratory animals produced signs of toxicity including convulsions, tremors and bloody nasal discharge.

Aspiration hazard The product does not present an aspiration pneumonia hazard.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Bifenthrin (82657-04-3)				
Active Ingredient(s)	Duration	Species	Value	Units
	14-day LC50	Eisenia fetida	> 8	mg/kg soil
	LD50	Bobwhite quail	1800	mg/kg
	96 h LC50	Salmo gairdneri	0.1	µg/l
	48 h EC50	Daphnia magna	0.11	µg/l
	21 d NOEC	Daphnia magna	0.00095	µg/l
	21 d NOEC	Pimephales promelas	1.86	µg/l
	30 d NOEC	Salmo gairdneri	0.012	µg/l

Acetamiprid (135410-20-7)				
Active Ingredient(s)	Duration	Species	Value	Units
Acetamiprid	72 h EC50	Algae	>98.3	mg/l
	96 h LC50	Fish	>100	mg/l
	48 h LC50	Crustacea	49.8	mg/l
	21 d NOEC	Fish	19.2	mg/l
	21 d NOEC	Crustacea	5	mg/l

Persistence and degradability Bifenthrin: Moderately persistent. Does not readily hydrolyze. Not readily biodegradable. Acetamiprid: Non-persistent. Does not readily hydrolyze. Not readily biodegradable.

Bioaccumulation Bifenthrin: The substance has a potential for bioconcentration. Acetamiprid: The substance does not have a potential for bioconcentration.

Mobility Bifenthrin: Immobile. Not expected to reach groundwater. Acetamiprid: Moderately mobile. Has some potential to reach groundwater.

Other Adverse Effects No information available.

Section 13: DISPOSAL CONSIDERATIONS

Waste disposal methods Remaining quantities of the material and empty but unclean packaging should be regarded as hazardous waste. Dispose of as hazardous waste in compliance with local and national

regulations. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated Packaging

Triple or preferably pressure rinse containers before disposal. Add rinsings to the 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 for appropriate disposal 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

IMDG/IMO

UN/ID no	3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s (Bifenthrin)
Hazard class	9
Packing Group	III
EmS	F-A, S-F
Environmental Hazards	Yes

ICAO/IATA

UN/ID no	3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s (Bifenthrin)
Hazard class	9
Packing Group	III
Environmental Hazards	Yes

ADG

Transport (R) Mikron Insecticide is a non-dangerous good in Australia based on Special Provision AU01 in the Australia Dangerous good code.
Not dangerous goods under ADG code when being transported in IBCs or other receptacles < 500 kg (Special Provision AU01).

Special Transport Requirements

Matters needing attention for transportation

Marine Pollutants in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 L or less for liquids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code and IATA special provision A197

Section 15: REGULATORY INFORMATION

SUSMP: S6.

International Inventories

A food, food additive, drug, cosmetic, or device, when manufactured, processed or distributed in commerce for use as a food, food additive, drug, cosmetic, or device may not be subject to local notification requirements. Check local regulations for more information.

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Bifenthrin 82657-04-3				X	X	X		
Acetamiprid 135410-20-7					X	X		
Propylene Carbonate	X	X	X	X	X	X	X	X

S 108-32-7								

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Section 16: OTHER INFORMATION

Prepared By FMC Corporation

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End of Safety Data Sheet