

Safety Data Sheet

Bayvarol strips



1. IDENTIFICATION OF SUBSTANCE & COMPANY

Product information

Product name Bayvarol strips
Other names 0.54g/kg flumethrin in the form of an impregnated polymer strip
ACVM approval P5693
HSNO approval HSR000756
Approval description Impregnated plastic strip containing 0.54 g/kg flumethrin
UN number NA
Proper Shipping Name NA
Packaging group NA
Hazchem code 1T (recommended)

Uses For the diagnosis and control of varroa mites on honey bees

Company Details

Company Bayer New Zealand Ltd
Address 3 Argus Place,
Hillcrest,
Auckland 0627
New Zealand.
Telephone 0800 652 488
Facsimile 0800 229 838

Emergency Telephone Number: 0800 734 607

2. HAZARD IDENTIFICATION

Approval

This product has been approved under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR000756, Impregnated plastic strip containing 0.54 g/kg flumethrin), and is classified as follows:

Classes Hazard Statements

9.1D Harmful to aquatic life.

SYMBOLS

None

Other Classifications

ACVM registration number: P5693

There are no other Classifications that are known to apply.

Precautionary Statements

Avoid release to the environment.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS/ Identification	Concentration
flumethrin	69770-45-2	3.6 mg (545 mg/kg)
Inert ingredients, not contributing to HSNO classes	Proprietary	balance

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.



4. FIRST AID

General Information

You should call the National Poisons Centre if you feel that you may have been harmed or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service). If medical advice is needed, have product container or label at hand..

Recommended first aid facilities Ready access to running water is recommended.

Exposure

Swallowed If swallowed, seek medical advice. If medical advice is needed, have product container or label at hand.

Eye contact If product gets in eyes, wash material from them with running water for several minutes with the eyelids held open. A doctor or eye specialist should be consulted immediately.

Skin contact Wash immediately with plenty of water and soap.

Inhaled Generally, inhalation of fumes is unlikely to result in adverse health effects. If coughing, dizziness or shortness of breath is experienced, remove the patient to fresh air immediately. If patient is unconscious, place in the recovery position (on the side) for transport and contact a doctor.

Advice to Doctor

Treat symptomatically

5. FIREFIGHTING MEASURES

Fire and explosion hazards: There are no specific risks for fire/explosion for this chemical. It is not classed as flammable by EPA.

Suitable extinguishing substances: Carbon dioxide, extinguishing powder, foam, fog sprays, water jets.

Unsuitable extinguishing substances: Unknown.

Products of combustion: Carbon dioxide, and if combustion is incomplete, carbon monoxide, hydrogen chloride, hydrogen cyanide, nitrogen oxides and smoke. Water. May form toxic mixtures in air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures.

Protective equipment: No special measures are required.

Hazchem code: 1T (recommended)

6. ACCIDENTAL RELEASE MEASURES

Containment If greater than *10000kg is stored*, secondary containment and emergency plans to manage any potential spills must be in place. In all cases design storage to prevent discharge to stormwater.

Emergency procedures If a significant spill (>100kg) occurs:
Stop leak if safe/necessary; Isolate area. Collect spill – see below; Transfer to container for disposal. Dispose of according to guidelines below (Section 13).

Clean-up method Collect product mechanically and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.

Disposal Collect recoverable material into labelled containers for recycling or salvage. Recycle containers wherever possible. This material may be suitable for approved landfill. Dispose of only in accord with all regulations.

Precautions No special protective clothing is normally necessary.



7. STORAGE & HANDLING

Storage	Avoid storage of harmful substances with food, drink or animal feeds. Store out of reach of children. Containers should be kept cool and tightly closed in order to minimise contamination. Keep from extreme heat (>40°C) and open flames. Protect from temperatures below 0°C.
Handling	Avoid contact with incompatible substances as listed in Section 10. Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements.

8. EXPOSURE CONTROLS / PERSONAL PROTECTIVE EQUIPMENT

Workplace Exposure Standards

A workplace exposure standard (WES) has not been established by WorkSafe NZ for this product. There is a general limit of 10mg/m³ for dusts and mists when limits have not otherwise been established.

NZ Workplace Exposure Stds (2013)	Ingredient	WES-TWA	WES-STEL
	Flumethrin	data unavailable	data unavailable

Engineering Controls

In industrial situations, it is expected that employee exposure to hazardous substances will be controlled to a level as far below the WES as practicable by applying the hierarchy of control required by the Health and Safety in Employment Act 1992 (HSE). Exposure can be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify processes or increase ventilation.

Personal Protective Equipment

Eyes	Protective eyewear is not normally necessary when using this product. However, it always prudent to use protective eyewear if contact with the eyes is likely.
Skin	Protective gloves and clothing are not normally necessary. However, it is prudent to wear gloves when handling chemicals in bulk or for an extended period of time. Use protective gloves made of Baypren, nitrile rubber or PVC. Ensure gloves have no holes. Do not re-use gloves.
Respiratory	Respirator is not required under normal use. Ensure adequate natural ventilation. If product is being used in confined conditions, the use of a mask or respirator, e.g. half mask with a particulate filter may be preferred.

WES Additional Information

Not applicable

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance	turbid, white, solid, plastic panel (polyethylene)
Odour	weak odour
pH	NA
Vapour pressure	NA
Boiling point	NA
Volatile materials	NA
Freezing / melting point	~120°C
Solubility	insoluble
Partition coefficient	Log P octanol/water = flumethrin: 6.2
Specific gravity / density	NA
Flash point	non flammable
Danger of explosion	not explosive
Auto-ignition temperature	no data
Corrosiveness	non corrosive



10. STABILITY & REACTIVITY

Stability	Stable
Conditions to be avoided	Containers should be kept closed in order to avoid contamination. Keep from extreme heat and open flames.
Incompatible groups	None known
Substance Specific Incompatibility	None known
Hazardous decomposition products	Hydrogen chloride, hydrogen cyanide, carbon monoxide and nitrogen oxides are possible during thermal decomposition.
Hazardous reactions	None known

11. TOXICOLOGICAL INFORMATION

Summary

IF SWALLOWED: unlikely route of exposure (solid polymer strips). May cause gastrointestinal discomfort.

IF IN EYES: direct contact may cause slight irritation of the eyes.

IF ON SKIN: direct contact may cause slight irritation of the skin. Not considered sensitising.

Supporting Data

Acute	Oral	Using LD ₅₀ 's for ingredients, the calculated LD ₅₀ (oral, rat) for the mixture is >5,000 mg/kg. Data considered includes: Flumethrin 41mg/kg (rat) from CCID >100mg/kg (rat) from Bayer.
	Dermal	Using LD ₅₀ 's for ingredients, the calculated LD ₅₀ (dermal, rat) for the mixture is >5000 mg/kg. Data considered includes: Flumethrin >2000mg/kg (rat).
Chronic	Inhaled	No evidence of acute inhalation toxicity.
	Eye	The mixture is not considered to be an eye irritant by EPA.
	Skin	The mixture is not considered to be a skin irritant by EPA.
	Sensitisation	No ingredient present at concentrations > 0.1% is considered a sensitizer.
	Mutagenicity	No ingredient present at concentrations > 0.1% is considered a mutagen.
	Carcinogenicity	No ingredient present at concentrations > 0.1% is considered a carcinogen.
	Reproductive / Developmental Systemic	No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation.
	Aggravation of existing conditions	No ingredient present at concentrations > 1% is considered a target organ toxicant. None known.

12. ECOLOGICAL DATA

Summary

This product has been classified by EPA as harmful in the aquatic environment.

Supporting Data

Aquatic	Using EC ₅₀ 's for ingredients, the calculated EC ₅₀ for the mixture is between 1 and 100 mg/L. Data considered includes: Flumethrin similar to other pyrethroids (e.g. Permethrin), Octanol/water partition coefficient: Log P _{ow} = 6.2 .
Bioaccumulation	No data
Degradability	No data
Soil	EPA has not classified the mixture as ecotoxic in the soil environment.
Terrestrial vertebrate	EPA has not classified the mixture as ecotoxic to terrestrial vertebrates
Terrestrial invertebrate	EPA has not classified the mixture as ecotoxic to terrestrial invertebrates.
Biocidal	no data
Environmental effect levels	No EELs are available for this mixture or ingredients



13. DISPOSAL CONSIDERATIONS

Restrictions	There are no product-specific restrictions, however, local council and resource consent conditions may apply, including requirements of trade waste consents.
Disposal method	Disposal of this product must comply with the requirements of the Resource Management Act for which approval should be sought from the Regional Authority. The substance must be treated and therefore rendered non-hazardous before discharge to the environment.
Contaminated packaging	Rinse containers with water before disposal. Preferably re-cycle container, otherwise send to landfill or similar.

14. TRANSPORT INFORMATION

There are no specific restrictions for this product (not a dangerous good).

UN number:	NA	Proper shipping name:	NA
Class(es):	NA	Packing group:	NA
Precautions:	NA	Hazchem code:	1T (recommended)

15. REGULATORY INFORMATION

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR000756, Impregnated plastic strip containing 0.54 g/kg flumethrin.

Specific Workplace Controls (as per HSNO approval referenced to Controls Matrix)

Key workplace requirements are:

SDS	To be available within 10 minutes in workplaces storing > 1L.
Labelling	No removal of labels and/or decanting of product into other containers can occur.
Emergency plan	Required if > 10000L is stored.
Approved handler	Not required.
Tracking	Not required.
Bunding & secondary containment	Required if > 10000L is stored.
Signage	Required if > 10000L is stored.
Location test certificate	Not required.
Flammable zone	Not required.
Fire extinguisher	Not required.

Note: The above workplace requirements apply if only this particular substance is present. The complete set of controls for a location will depend on the classification and total quantities of other substances present in that location.

Other Legislation

In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health, Safety in Employment Act and Regulations, local Council Rules and Regional Council Plans.

ACVM registration number: P5693



16. OTHER INFORMATION

Abbreviations

Approval Code	Approval HSR000756, Impregnated plastic strip containing 0.54 g/kg flumethrin Controls, EPA. www.epa.govt.nz
ACVM	Agricultural Compounds and Veterinary Medicines
ARTG	Australian Register of Therapeutic Goods
CAS Number	Unique Chemical Abstracts Service Registry Number
Ceiling	Ceiling Exposure Value: The maximum airborne concentration of a biological or chemical agent to which a worker may be exposed at any time.
Controls Matrix	List of default controls linking regulation numbers to Matrix code (e.g. T1, I16).
EC₅₀	Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)
ERMA	Environmental Risk Management Authority (now EPA)
EPA	Environmental Protection Agency (previously known as ERMA)
HAZCHEM Code	Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters
HSNO	Hazardous Substances and New Organisms (Act and Regulations)
IARC	International Agency for Research on Cancer
LEL	Lower Explosive Limit
LD₅₀	Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).
LC₅₀	Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats)
MSDS (SDS)	Material Safety Data Sheet (or Safety Data Sheet)
STEL	Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded
TWA	Time Weighted Average – generally referred to as WES averaged over typical work day (usually 8 hours)
UEL	Upper Explosive Limit
UN Number	United Nations Number
WES	Workplace Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed.

References

Data	Unless otherwise stated comes from the EPA HSNO chemical classification information database (CCID) http://www.epa.govt.nz/hs/compliance/chemicals.html for specific chemicals.
EPA Transfer Gazettes	Classifications and controls assigned for specific ingredients (consolidated gazette, 2004)
Controls Matrix	Part of the EPA New Zealand User Guide to the HSNO Control Regulations
WES 2013	The NZ Workplace Exposure Standards Effective from 2013, published by WorkSafe NZ and available on their web site – www.worksafe.govt.nz .
Other References:	Bayer SDS

Review

Date	Reason for review
May 2014	Not applicable – new SDS

Disclaimer

This SDS was prepared by Datachem LTD and is based on our current state of knowledge, including information obtained from suppliers. The SDS is given in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the SDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely HSNO classifications, are based on our experience, EPA Guidelines and international classifications. This SDS is copyright Datachem and must not be edited without the permission of the copyright holder or used for other than intended purpose. To contact the SDS author, email info@datachem.co.nz or phone: (09) 940 30 80.





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