

1. Identification of Substance & Company

Product

Product name	Affirm 18
Product code	none
ACVM registration number	P10325
HSNO approval	HSR101034,
Approval description	Abamet
UN number	3082
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (ABAMECTIN)
DG class	9
Packaging group	III
Hazchem code	3Z
Uses	For the control of mites on avocados, pipfruit, indoor tomatoes, strawberries and ornamentals and for the control of leafrollers on kiwifruit and tomato-potato psyllid on potatoes

Company Details – Importer

Company Address	AgStar New Zealand Pty Ltd 4 Putakitaki Street, Lincoln, Christchurch 7608 New Zealand
Telephone	027 483 9755

Company Details – Distributor

Company Address	Farmlands Co-operative Society Limited 535 Wairakei Road, Burnside, Christchurch 8053
Telephone	0800 200 600

24h EMERGENCY CONTACT: 0800 243 622 (0800 CHEMCALL)
NATIONAL POISON CENTRE: 0800 764 766

2. Hazard Identification

Approval

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR101034, Abamet). The substance has been classified as hazardous according to the criteria in the Hazardous substances (Hazard Classification) Notice 2020.

GHS 7 Classes	Hazard Statements
Flammable liquid category 4	H227 - Combustible liquid.
Acute toxicity category 4 (oral)	H302 - Harmful if swallowed.
Eye irritant category 2	H319 - Causes serious eye irritation.
Reproductive toxicity category 1	H360 - May damage fertility or the unborn child.
Lactation category 1	H362 - May cause harm to breast-fed children.
STOT* repeated exposure category 2	H373 - May cause damage to organs through prolonged or repeated exposure.
Chronic aquatic category 1	H410 - Very toxic to aquatic life with long lasting effects.
Acute aquatic category 1	H400 - Very toxic to aquatic life.
Hazardous to soil organisms	H423 - Harmful to the soil environment.
Hazardous to terrestrial vertebrates	H433 - Harmful to terrestrial vertebrates.
Hazardous to terrestrial invertebrates	H441 - Very toxic to terrestrial invertebrates.

*STOT – System Target Organ Toxicity

SYMBOLS

DANGER



Other Classifications

There are no other classifications that are known to apply.

Precautionary Statements

Prevention	<p>P102 - Keep out of reach of children. P103 - Read label before use. P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P210 - Keep away from flames and hot surfaces*. No smoking. P260 - Do not breathe dust/fume/gas/mist/vapours/spray. P263 - Avoid contact during pregnancy/while nursing. P264 - Wash hands thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection.</p>
Response	<p>P101 - If medical advice is needed, have product container or label at hand. P370+P378 - In case of fire: Use ... <specify appropriate media> for extinction. P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. P330 - Rinse mouth. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 - If eye irritation persists: Get medical advice/attention. P308+P313 - IF exposed or concerned: Get medical advice/ attention. P391 - Collect spillage.</p>
Storage	<p>P403+P235 - Store in a well-ventilated place. Keep cool. P405 - Store locked up.</p>
Disposal	<p>P501 - Dispose of contents/container in accordance with local/regional/national/international regulation.</p>

3. Composition / Information on Ingredients

Component	CAS/ Identification	Concentration
Abamectin	71751-41-2	1.8%
N-Methyl Pyrrolidone	872-50-4	25%
ingredients not contributing to GHS classes	mixture	balance

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

4. First Aid

General Information

If medical advice is needed, have product container or label at hand. 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).

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

Exposure

Swallowed	IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting. Give a glass of water to drink.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin contact	IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/ attention. Take off contaminated clothing and wash before re-use.
Inhaled	Generally, inhalation of vapours/dusts is unlikely to result in acute 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:	This product is: a combustible liquid with a flashpoint of >60°C. This product has the potential to cause fire or to create an additional hazard during fire
Suitable extinguishing substances:	Carbon dioxide, extinguishing powder, foam.
Unsuitable extinguishing substances:	Unknown.
Products of combustion:	Carbon dioxide, and if combustion is incomplete, carbon monoxide 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:	Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and eye protection.
Hazchem code:	3Z

6. Accidental Release Measures

Containment	If greater than 100L 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 storm water.
Emergency procedures	In the event of spillage alert the fire brigade to location and give brief description of hazard. Stop the source of the leak, if safe to do so. Shut off all possible sources of ignition. Wear protective equipment to prevent skin, eye and respiratory exposure. Clear area of any unprotected personnel. Contain using sand, earth or vermiculite. Do not use sawdust. Prevent by whatever means possible any spillage from entering drains, sewers, or water courses. (If this occurs contact your regional council immediately).
Clean-up method	Use absorbent (soil, sand or other inert material). Rags are not recommended for the clean-up of spills, as they may create fire or environmental hazard. Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.
Disposal	Mop up and 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	Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation.

7. Storage & Handling

Storage	Store locked up. Avoid storage of harmful substances with food. Store out of reach of children. Containers should be kept closed in order to minimise contamination. Keep from extreme heat and open flames. Avoid contact with incompatible substances as listed in Section 10. Containers (and outer packaging) must bear the prescribed labelling, including the Hazchem code, UN number, flammability warning and name of contents.
Handling	Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements. Avoid skin and eye contact and inhalation of vapour, mist or aerosols.

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 3mg/m³ for respirable particulates and 10mg/m³ for inhalable particulates when limits have not otherwise been established.

NZ Workplace Exposure Stds	Ingredient	WES-TWA	WES-STEL
	N-Methyl Pyrrolidone	10ppm, 40mg/m ³	20ppm, 80mg/m ³

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 at Work Act (2015) and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016. 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

General

Personal Protective Equipment (PPE) should not be used as the primary means of exposure protection, except in the event of an accident or emergency situation or where all other means of protection have proven to inadequate.

Clean PPE after use or dispose of as appropriate. Store PPE for re-use in a clean place. Regular training on the correct use of PPE should be provided. In particular the correct fitting and use of respirators and where applicable the cleaning of respirators should be undertaken.

Eyes



Avoid contact with eyes. Use safety glasses and or chemical splash goggles if splashes are possible. Select eye protection in accordance with AS/NZS 1337.

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.

Respiratory

A respirator when airborne concentrations approach the WES (section 8). Respirators must have filters appropriate to the duty and comply with AS/NZS1716 and selected, used and maintained in accordance with AS/NS 1715. Use a respirator with a dust/mist cartridge. If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working order. Fit testing and clear guidelines and training for use and maintenance of PPE are necessary.

WES Additional Information

Not applicable

9. Physical & Chemical Properties

Appearance	pale yellow liquid
Odour	slight
Odour Threshold	not available
pH	4.5 - 7.0 (1% aqueous)
Freezing/melting point	no data
Boiling Point	no data
Flashpoint	no data
Flammability	no data
Upper & lower flammable limits	no data
Vapour pressure	no data
Vapour density	no data
Specific gravity/density	no data
Solubility	miscible in water
Partition coefficient	not available
Auto-ignition temperature	not available
Decomposition temperature	not available
Viscosity	not available
Particle Characteristics	not available

10. Stability & Reactivity

Stability	Stable
Conditions to be avoided	Flammable substance. Keep away from sources of ignition at all times. Containers should be kept closed in order to avoid contamination.
Incompatible groups	Strong oxidisers
Substance Specific Incompatibility	none known
Hazardous decomposition products	Thermal decomposition may result in toxic fumes, oxides of carbon and nitrogen.
Hazardous reactions	none known

11. Toxicological Information

Summary

IF SWALLOWED: this substance is harmful if swallowed.
 IF IN EYES: causes irritation.
 IF ON SKIN: no effect anticipated.
 IF INHALED: no effects anticipated.
 CHRONIC EFFECTS: Abamectin may cause fetotoxicity and effects during lactation.

Supporting Data

Acute	Oral	Using LD ₅₀ 's for ingredients, the Acute Toxicity Estimate (ATE) (oral) for the mixture is between 300 and 2,000 mg/kg. Data considered includes: Abamectin 8.7-12.8 mg/kg (rat), N-Methyl Pyrrolidone 4150mg/kg (rat).
	Aspiration	This mixture is not considered an aspiration hazard.
Chronic	Dermal	Using LD ₅₀ 's for ingredients, the Acute Toxicity Estimate (ATE) (dermal) for the mixture is >2,000 mg/kg.
	Inhaled	Using LD ₅₀ 's for ingredients, the Acute Toxicity Estimate (ATE) (inhalation) for the mixture is >5mg/L/4h.
	Eye	The mixture is considered to be an eye irritant, because some of the ingredients present are considered eye irritants in more concentrated form.
	Skin	The mixture is not considered to be a skin irritant.
	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	The mixture is considered to be a reproductive or developmental toxicant. Abamectin is suspected of causing fetotoxicity and teratogenic effects. Abamectin is also suspected to have an effect on or via lactation.
	Systemic	The mixture is considered to be a suspected target organ toxicant, because at least one of the ingredients present in greater than 1% is known or presumed to be a target organ toxicant. Abamectin may affect the lungs.
	Aggravation of existing conditions	None known.

12. Ecological Data

Summary

This substance is considered extremely toxic in the aquatic environment and towards terrestrial invertebrates, toxic towards the soil environment and terrestrial vertebrates.

Supporting Data

Aquatic	Using EC ₅₀ 's for ingredients, the calculated EC ₅₀ for the mixture is <1 mg/L. Data considered includes: Abamectin 0.430g/L (48hr, Eastern Oyster (<i>Crassostrea virginica</i>)), 0.0036 mg/l (96hr, Rainbow trout), 0.00034 mg/l (48hr, <i>Daphnia magna</i>).
Bioaccumulation	No data
Degradability	No data
Soil	EPA has classified the mixture as ecotoxic to the soil environment, with a soil ecotoxicity value between 1 and 10 mg/kg. Abamectin is highly toxic to dung beetle larvae.
Terrestrial vertebrate	The mixture has been classified by EPA as ecotoxic to terrestrial vertebrates. Using the LD ₅₀ 's for ingredients, the calculated LD ₅₀ (oral, rat) for the mixture is between 50 and 500 mg/kg. See acute toxicity.
Terrestrial invertebrate	The mixture has been classified by EPA as very ecotoxic to terrestrial vertebrates. The calculated invertebrate ecotoxicity value for the mixture is < 2 µg/bee. Data considered includes: Abamectin data LD ₅₀ (bee): 0.002 µg/bee.
Biocidal	no data

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 Hazardous Substances (Disposal) Notice 2017 and 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	Disposal of contaminated packaging must comply with the Hazardous Substances (Disposal) Notice 2017 clause 12. Ensure that the package is rendered incapable of containing any substance and is disposed in a manner that is consistent with the requirements of the substance it contained and the material of the package. If possible reuse or recycle packaging.

14. Transport Information

Land Transport Rule: Dangerous Goods 2005 - NZS 5433:2007

Transport according to NZS 5433 (Transport of Hazardous Substances on Land). Considered a dangerous good for transport.

UN number:	3082	UN number:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (ABAMECTIN)
Class(es)	9	Class(es)	III
Precautions:	Marine Pollutant	Hazchem code:	3Z

IMDG

UN number:	3082	UN number:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (ABAMECTIN)
Class(es)	9	Class(es)	III
Precautions:	Marine Pollutant	EMS	F-A,S-F

IATA

UN number:	3082	UN number:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (ABAMECTIN)
Class(es)	9	Class(es)	III
Precautions:	Marine Pollutant		

15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR101034, Abamet. All ingredients appear on the New Zealand Inventory of Chemicals NZIoC.

Specific Controls

Key workplace requirements are:

SDS	To be available within 10 minutes in workplaces storing any <i>quantity</i> .
Inventory	An inventory of all hazardous substances must be prepared and maintained.
Packaging	All hazardous substances should be appropriately <i>packaged including substances that</i> manufactured for own use or have been supplied
Labelling	Must comply with <i>the Hazardous Substances (Labelling) Notice 2017</i> .
Emergency plan	Required if > 100L is stored.
Certified handler	Required if > <i>not required is handled</i> or stored.
Tracking	This substance is <i>required to be tracked</i> if > not required is present.
Bunding & secondary containment	Required if > <i>100L is stored</i> .
Signage	Required if > 100L is <i>stored</i> .
Location compliance certificate	Required if > not required is stored.
Flammable zone	Must be established if > not required is stored.
Fire extinguisher	If > not required present.

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 and Safety at Work Act 2015 and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016, local Council Rules and Regional Council Plans.
ACVM registration number: P10325

16. Other Information

Abbreviations

Approval Code	Approval HSR101034, Abamet Controls, EPA. www.epa.govt.nz
CAS Number	Unique Chemical Abstracts Service Registry Number
EC₅₀	Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)
EPA	Environmental Protection Authority (New Zealand)
GHS	Globally Harmonised System of Classification and Labelling of Chemicals, 7 th revised edition, 2017, published by the United Nations.
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)
NZIoC	New Zealand Inventory of Chemicals
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
STOT RE	System Target Organ Toxicity – Repeated Exposure
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 during work hours (usually 8 hours, 5 days a week). The WES relates to exposure that has been measured by personal monitoring using procedures that gather air samples in the worker's breathing zone.

References

Data	Unless otherwise stated comes from the EPA HSNO chemical classification information database (CCID).
Controls	EPA notices, www.epa.govt.nz , Health and Safety at Work (Hazardous Substances) Regulations 2017, www.legislation.govt.nz
WES	The latest NZ Workplace Exposure Standards, published by WorkSafe NZ and available on their web site – www.worksafe.govt.nz .
Other References:	Suppliers SDS

Review

Date	Reason for review
20 November 2025	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 GHS 7 classifications for this SDS have been estimated based on general information from the supplier (e.g., hazard, toxicological). This SDS is copyright Datachem and must not be copied, edited or used for other than intended purpose. To contact the SDS author, email info@datachem.co.nz or phone: +64 21 1040951.

