1. Identification

Product

Product name	Cyhella
Product code	NA
ACVM	not assigned
HSNO approval	HSR000336,
Approval description	Capsule suspension containing 250 g/litre lambda-cyhalothrin
UN number	3352
Proper Shipping Name	PYRETHROID PESTICIDE, LIQUID, TOXIC (contains cyhalothrin)
DG class	6.1
Packing group	III
Hazchem code	5L
Uses	Insecticide

Company Details

Company:	**Arxada NZ Limited**
Address:	13-15 Hudson Rd Bell Block New Plymouth New Zealand
Telephone:	+64 6 755 9234
Fax:	+64 6 755 1174
Website:	www.arxada.co.nz
Email:	office-newplymouth@arxada.com

Emergency Telephone Number: 0800CHEMCALL (0800 243 622, +64 4 917 9888)

2. Hazard Identification

Approval

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR000336, Capsule suspension containing 250 g/litre lambda-cyhalothrin). The substance has been classified as hazardous according to the criteria in the Hazardous substances (Hazard Classification) Notice 2020.

GHS 7 Classes	Hazard Statements
Acute toxicity category 3 (oral)	H301 - Toxic if swallowed.
Acute toxicity category 4 (inhalation)	H332 - Harmful if inhaled.
Eye irritant category 2	H319 - Causes serious eye irritation.
Carcinogen category 2	H351 - Suspected of causing cancer.
Reproductive toxicity category 2	H361 - Suspected of damaging fertility or the unborn child.
STOT* repeated exposure category 1	H372 - Causes damage to organs through prolonged or repeated exposure.
Acute aquatic category 1	H400 - Very toxic to aquatic life.
Chronic aquatic category 1	H410 - Very toxic to aquatic life with long lasting effects.
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
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.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response
P101 - If medical advice is needed, have product container or label at hand.
P308+P313 - IF exposed or concerned: Get medical advice/ attention.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.
P330 - Rinse mouth.
P304+P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P312 - Call a POISON CENTRE or doctor/physician if you feel unwell.
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.
P391 - Collect spillage.

Storage
P405 - Store locked up.

Disposal
P501 - Dispose of contents/container in accordance with local/regional/national/international regulation.

3. Composition / Information on Ingredients

Component	CAS/ Identification	Concentration
Lambda Cyhalothrin	91465-08-6	250g/L
Solvent naphtha (petroleum), heavy arom. May include: Naphthalene (<1%)	64742-94-5 91-20-3	10-30%
Polyvinyl alcohol may include traces of methanol	9002-89-5	1-5%
Ingredients not contributing to GHS 7 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 poisoned 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. If conscious give a glass of water to drink. If vomiting occurs, place victim face downwards, with the head turned to the side and lower than the hips to prevent vomit entering the lungs.

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 fumes/vapours/dusts 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 non-flammable.
Suitable extinguishing substances:	Carbon dioxide, extinguishing powder or water jet. Fight larger fires with water jet or alcohol resistant 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:	2X

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. Wear protective equipment to prevent skin, eye and respiratory exposure. Clear area of any unprotected personnel. Contain using sand, earth or vermiculite. 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/spray. Work up wind or increase ventilation.

7. Handling and Storage

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

NZ Workplace Exposure Stds	Ingredient	WES-TWA	WES-STEL
	naphthalene	0.5ppm, 2.6mg/m^3	2ppm, 10mg/m^3
	methanol (skin, bio)	200ppm, 262mg/m^3	250ppm, 328mg/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

Avoid any skin contact. Wear suitable protective clothing, e.g. overalls or aprons, rubber boots and impervious gloves. PVC gloves are recommended. Protective gloves or suitably resistant material must comply with AS 2161. Replace frequently. Gloves should be checked for tears or holes before use. Protective clothing must comply with AS 2919, AS3765.1 or AS3765.2. PVC or rubber boots must comply with AS/NZS 2210.2 and selected and maintained in accordance with AS/NS2210.1. Remove protective clothing and wash exposed areas with soap and water prior to eating, drinking or smoking.

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 an organic vapour cartridge and a dust/mist filter. 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	light brown liquid/Capsule
Odour	faint odour
Odour Threshold	no data
pH	5.5-8.0
Freezing/melting point	no data
Boiling Point	initial: 100°C
Flashpoint	>103°C
Flammability	non flammable
Upper & lower flammable limits	no LEL or UEL
Vapour pressure	no data
Vapour density	no data
Specific gravity/density	1.03-1.06 (water =1)
Solubility	miscible in water
Partition coefficient	no data
Auto-ignition temperature	no data
Decomposition temperature	no data
Viscosity	no data
Particle Characteristics	no data

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. Keep out of light and direct sunlight.
Incompatible groups	Strong oxidisers, alkalis
Substance Specific Incompatibility	none known
Hazardous decomposition products	Thermal decomposition products include oxides of carbon, oxides of nitrogen, sulphur oxides and other toxic fumes.
Hazardous reactions	none known

11. Toxicological Information

Summary

IF SWALLOWED: toxic if swallowed. Swallowing of the liquid may also cause aspiration into the lungs
IF IN EYES: may cause eye irritation.
IF ON SKIN: solvent may dry out skin cause dryness and cracking.
IF INHALED: may cause respiratory irritation and central nervous system depression causing headaches, dizziness, fatigue and loss of coordination.

Supporting Data

Acute	**Oral**	Using LD_{50}'s for ingredients, the Acute Toxicity Estimate (ATE) (oral) for the mixture is between 50 and 300 mg/kg. Data considered includes: Lambda Cyhalothrin 20 mg/kg (mouse), Solvent naphtha (petroleum), heavy arom. >7000mg/kg, naphthalene 490mg/kg (rat), Polyvinyl alcohol 14700mg/kg (mouse), methanol LD_{50} (oral): 870mg/kg (mouse), 5628mg/kg (rat), 300mg/kg (human).
	Aspiration	This mixture contains organic hydrocarbon which are considered an aspiration hazard.
	Dermal	Using LD_{50}'s for ingredients, the Acute Toxicity Estimate (ATE) (dermal) for the mixture is >2,000 mg/kg. Data considered includes: Lambda Cyhalothrin 632 mg/kg (rat), Solvent naphtha (petroleum), heavy arom. >3160mg/kg (rabbit), naphthalene 1120 mg/kg (rabbit), methanol LD_{50} (dermal): 15800mg/kg (rabbit), 393 mg/kg bw (primates), ,
	Inhaled	Using LD_{50}'s for ingredients, the Acute Toxicity Estimate (ATE) (inhalation) for the mixture is between 1 and 5mg/L/4h. Data considered includes: Lambda Cyhalothrin 0.06 mg/l (rat, dust/mist).
	Eye	The mixture is considered to be an eye irritant, because some of the ingredients (Lambda Cyhalothrin) present are considered eye irritants in more concentrated form.
	Skin	The mixture is not considered to be a skin irritant.
Chronic	**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	The mixture is considered to be a suspected carcinogen, because at least one of the ingredients(traces of naphthalene in solvent naphtha (petroleum) heavy aromatic) present in greater than 0.1% is suspected to be a carcinogen.
	Reproductive / Developmental	The mixture is considered to be a suspected reproductive or developmental toxicant, because at least one of the ingredients (traces of methanol) present in greater than 0.1% is suspected to be a reproductive or developmental toxicant.
	Systemic	The mixture is considered to be a known or presumed target organ toxicant, because at least one of the ingredients (Lambda Cyhalothrin) present in greater than 1% is known or presumed to be a target organ toxicant.
	Aggravation of existing conditions	None known.

12. Ecological Information

Summary

This mixture is very toxic towards aquatic organisms with long lasting effects. It is also toxic towards terrestrial vertebrates and very toxic towards terrestrial invertebrates In all cases prevent run-off to drains, sewers and waterways.

Supporting Data

Aquatic	Using EC_{50}'s for ingredients, the calculated EC_{50} for the mixture is > 100 mg/L. Data considered includes: Lambda Cyhalothrin 0.0002 mg/l (96h, fish), 0.0000068mg/l (48h, Gammarus pulex Scud).
Bioaccumulation	Lambda Cyhalothrin has a high potential for bioaccumulation. Log Kow = 7
Degradability	Lambda Cyhalothrin is considered persistent in air and soil
Soil	No data for the mixture. Lambda Cyhalothrin has low mobility in soild
Terrestrial vertebrate	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: Lambda Cyhalothrin 38ng/bee (oral) and 9.9ng/bee (dermal).
Biocidal	This is designed as an insecticide

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 5433:2020:
Transport according to NZS 5433 (Transport of Hazardous Substances on Land). Considered a dangerous good for transport.

UN number:	3352	**Proper shipping name:**	PYRETHROID PESTICIDE, LIQUID, TOXIC (contains cyhalothrin)
Class(es)	6.1	**Packing group:**	6.1
Precautions:	TOXIC LIQUID	**Hazchem code:**	2X

IMDG

UN number:	3352	**Proper shipping name:**	PYRETHROID PESTICIDE, LIQUID, TOXIC (contains cyhalothrin)
Class(es)	6.1	**Packing group:**	6.1
Precautions:	TOXIC LIQUID	**EMS Code**	F-A, S-A

IATA

UN number:	3352	**Proper shipping name:**	PYRETHROID PESTICIDE, LIQUID, TOXIC (contains cyhalothrin)
Class(es)	6.1	**Packing group:**	III
Precautions:	TOXIC LIQUID	**ERG code:**	6L

15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR000336, Capsule suspension containing 250 g/litre lambda-cyhalothrin. 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 quantity.
Inventory	An inventory of all hazardous substances must be prepared and maintained.
Packaging	All hazardous substances should be appropriately packaged including substances that have been decanted, transferred or manufactured for own use or have been supplied
Labelling	Must comply with the Hazardous Substances (Labelling) Notice 2017.
Emergency plan	Required if > 100L is stored.
Certified handler	Not required.
Tracking	Not required.
Bunding & secondary containment	Required if > 100L is stored.
Signage	Required if > 100L is stored.
Location compliance certificate	Required if > 1000L is stored.
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 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.

16. Other Information

Abbreviations

Approval Code	Approval HSR000336, Capsule suspension containing 250 g/litre lambda-cyhalothrin Controls, EPA. www.epa.govt.nz
CAS Number	Unique Chemical Abstracts Service Registry Number
EC_{50}	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, 7th 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
LD_{50}	Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).
LC_{50}	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
STOT SE	System Target Organ Toxicity – Single Exposure
TWA	Time Weighted Average – generally referred to 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
Review date	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.***

Datachem