

### Section 1: SUBSTANCE IDENTIFICATION AND SUPPLIER

<b>Product Name:</b>	Halex <sup>CS</sup>
<b>Product Code:</b>	7974082 (250ml) 7974086 (1 Litre)
<b>Recommended Use:</b>	Synthetic Pyrethroid for insect control in a variety of crops, amenity turf, ornamentals and public health situations.
<b>Restrictions of Use:</b>	Refer to Section 15
<b>Company Identification:</b>	Ravensdown Limited
<b>Address:</b>	292 Main South Road, Hornby, Christchurch, 8042 PO Box 1049, Christchurch 8011
<b>Customer Centre:</b>	0800 100 123
<b>National Poisons Information Centre:</b>	0800 POISON (0800 764 766)
<b>Emergency Phone Number:</b>	0800 CHEMCALL (0800 243 622) (24hr) (Emergencies Only)
<b>Transport Emergency Phone Number:</b>	111 - tell operator what service is needed: Fire, Ambulance or Police
<b>Date of SDS Preparation</b>	9 May 2024 v2

### Section 2: HAZARD IDENTIFICATION

This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2020

<b>EPA Approval No:</b>	HSR000336
<b>Pictograms:</b>	
<b>Signal Word:</b>	<b>DANGER</b>

GHS Classification and Category	Hazard Code	Hazard Statement
Acute oral toxicity Cat. 3	H301	Toxic if swallowed.
Acute inhalation toxicity Cat. 4	H332	Harmful if inhaled.
Eye irritation Cat. 2	H319	Causes serious eye irritation.
Specific target organ toxicity – repeated exposure Cat. 1	H372	Causes damage to organs through prolonged or repeated exposure.
Hazardous to the aquatic environment acute Cat. 1	H400	Very toxic to aquatic life.
Hazardous to the aquatic environment chronic Cat. 1	H410	Very toxic to aquatic life with long lasting effects.
Hazardous to terrestrial vertebrates.	H432	Hazardous to terrestrial vertebrates.
Hazardous to terrestrial invertebrates.	H441	Hazardous to terrestrial invertebrates.

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.
P260	Do not breathe dust, fumes, gas, mist, vapours or 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 [if this is not the intended use].
P280	Wear protective clothing [as detailed in SDS Section 8].

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

Storage Code	Storage Statement
P405	Store locked up.

Disposal Code	Disposal Statement
P501	Dispose of according to Local Regulations or Authorities

### Section 3: COMPOSITION INFORMATION

INGREDIENT	CAS No.	CONTENT
Lambda cyhalothrin	91465-08-6	>20%
Non-hazardous ingredients		To 100%

### Section 4: FIRST AID MEASURES

<b>Routes of Exposure:</b>	
<b>If in eyes:</b>	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.
<b>If on skin:</b>	Remove contaminated clothing and wash affected area thoroughly with soap and water. If a large area is affected seek medical assistance.
<b>If ingested:</b>	Rinse mouth. Never give anything by mouth to an unconscious person. If swallowed DO NOT induce vomiting. For advice, contact the National Poisons Centre on 0800 POISON (0800 764 766). Seek medical assistance immediately.
<b>If inhaled:</b>	Remove patient to fresh air. Lay down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Seek medical assistance immediately.
<b>Most important symptoms and effects, both acute and delayed</b>	
<b>Symptoms:</b>	
<b>Eyes:</b>	Causes serious eye irritation.
<b>Skin:</b>	Not applicable.
<b>Ingested:</b>	Toxic if swallowed.
<b>Inhaled:</b>	Harmful if inhaled.
<b>Chronic:</b>	Causes damage to organs through prolonged or repeated exposure.
<b>Notes to Doctor:</b>	No specific antidote. Treat symptomatically.

### Section 5: FIRE FIGHTING MEASURES

<b>Hazard Type</b>	Non Flammable
<b>Hazards from combustion products</b>	If involved in a fire may generate toxic and irritating gases.
<b>Suitable Extinguishing media</b>	Water fog, foam, carbon dioxide or dry chemical
<b>Precautions for firefighters and special protective clothing</b>	Full protective clothing and self-contained breathing apparatus.
<b>HAZCHEM CODE</b>	2X

### Section 6: ACCIDENTIAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures:

Wear appropriate protective clothing as detailed in Section 8. Exclude non-essential people from the area.

#### Environmental precautions:

Prevent from entering drains, waterways or sewers. If spill does enter waterways contact local authority.

#### Methods and material for containment and cleaning up:

Contain spill and absorb with inert material such as soil, sand or absorbent granules and place in a sealable waste container. Dispose of according to Section 13.

## Section 7: HANDLING AND STORAGE

<b>Handling:</b>	<p>Read label before use.</p> <p>Avoid contact with skin, eyes and inhalation of spray mist.</p> <p>Do not breathe fumes, vapours or spray.</p> <p>Wash hands thoroughly after handling.</p> <p>Do not eat, drink or smoke when using this product.</p> <p>Avoid release to the environment.</p> <p>Wear protective clothing as detailed in Section 8.</p> <p>Record Keeping: Records of use in accordance with NZS 8409 Management of Agrichemicals must be kept.</p>
<b>Storage:</b>	<p>Keep out of reach of children.</p> <p>Store away from incompatible materials listed in Section 10.</p> <p>Store locked up.</p> <p>Store in original container tightly closed and in a locked, dry, cool area away from foodstuffs, fertiliser and seed.</p> <p>Store in accordance with NZS 8409 Management of Agrichemicals</p> <p>This product is subject to signage and secondary containment when stored in quantities of 100L or more, either alone or in aggregate with substances of the same hazard classification. More than 100litres require emergency response plans. For full details refer to NZS 8409 Management of Agrichemicals and HSNO Regulations (Emergency Management and Identification Regulations).</p>

## Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION

### WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA ppm mg/m <sup>3</sup>	STEL ppm mg/m <sup>3</sup>
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No ingredients have exposure limits

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WES-STEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2023 14<sup>TH</sup> EDITION.

<b>Engineering Controls:</b>	Handle in well ventilated area. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. Avoid inhalation of spray mist.
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### Personal Protection Equipment:



<b>Eyes:</b>	When opening the container, preparing spray and when contact with concentrate or solution is likely, wear safety goggles.
<b>Skin/Hands:</b>	When opening the container, preparing spray and when contact with concentrate or solution is likely, wear chemically resistant gloves and boots, impermeable apron or chemical resistant suit worn over cotton overalls. Cotton overalls should be buttoned to the neck and wrist.
<b>Respiratory:</b>	Handle in well ventilated area.
<b>General:</b>	Do not eat, drink or smoke while using this product. Remove protective clothing and wash hands and face before meals and after work. Wash protective clothing daily after work. The use of a skin barrier cream is useful to give additional skin protection.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Viscous Liquid
<b>Colour</b>	Tan coloured suspension
<b>Odour</b>	Not available
<b>Odour Threshold</b>	Not available
<b>pH</b>	5.0 – 8.0
<b>Boiling Point</b>	Not available

<b>Melting Point</b>	Not available
<b>Freezing Point</b>	Not available
<b>Flash Point</b>	>103°C closed cup.
<b>Flammability</b>	Not flammable
<b>Upper and Lower Explosive Limits</b>	Not available
<b>Vapour Pressure</b>	Not available
<b>Vapour Density</b>	Not available
<b>Density</b>	1.01
<b>Water Solubility</b>	Disperses in water
<b>Partition Coefficient:</b>	Not available
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	Not available
<b>Kinematic Viscosity</b>	Not available
<b>Particle Characteristics</b>	Not available
<b>Other information</b>	Capsule Suspension (CS)

### Section 10: STABILITY AND REACTIVITY

<b>Stability of Substance</b>	When stored appropriately this product should show no significant degradation for 2 years from the date of manufacture.
<b>Possibility of hazardous reactions</b>	Not available
<b>Conditions to Avoid</b>	None known.
<b>Incompatible Materials</b>	Avoid contact with strong acids, bases and oxidising agents.
<b>Hazardous Decomposition Products</b>	None known.

### Section 11: TOXICOLOGICAL INFORMATION

#### Acute Effects:

<b>Swallowed</b>	Toxic if swallowed. LD <sub>50</sub> (rat) 144mg/kg for lambda-cyhalothrin
<b>Dermal</b>	Not applicable. LD <sub>50</sub> (rat) >632-696mg/kg for lambda-cyhalothrin
<b>Inhalation</b>	Harmful if inhaled. LC <sub>50</sub> (rat) (4hr) 0.175-0.315mg/l for formulated product. When applying this product avoid inhalation of spray mist.
<b>Eye</b>	Causes severe eye irritation.
<b>Skin</b>	Not applicable.

#### Chronic Effects:

<b>Carcinogenicity</b>	Based on the results of animal studies not considered to be carcinogenic to humans
<b>Reproductive Toxicity</b>	Data indicates no observable reproductive effects. It is unlikely that lambda cyhalothrin would cause reproductive effects in humans under normal conditions.
<b>Germ Cell Mutagenicity</b>	Not applicable.
<b>Aspiration</b>	Not applicable.
<b>STOT/SE</b>	Not applicable.
<b>STOT/RE</b>	Causes damage to organs through repeated or prolonged exposure.
<b>Chronic Effects</b>	Based on animal studies (rat), the principal toxic effects noted in chronic studies were decreased body weight gain and decreased food consumption. The NOEL was 2.5mg/kg/day and doses up to 8.5mg/Kg/day produced no observable changes in the function or structure of the liver or nervous system.

### Section 12: ECOLOGICAL INFORMATION

Very toxic to aquatic life with long lasting effects.

Hazardous to terrestrial vertebrates.

Hazardous to terrestrial invertebrates.

#### Product:

<b>Persistence and degradability</b>	Lambda cyhalothrin is moderately persistent in the soil environment, reported field half-lives range from 4-12 weeks.
<b>Bioaccumulation</b>	No data available.
<b>Mobility in Soil</b>	Lambda cyhalothrin has low mobility in soil. Microbial degradation and hydrolysis is the major cause of loss from the soil.
<b>Other adverse effects</b>	Avoid unintended release into streams and waterways.

**Ecotoxicity:** Acute Toxicity (fish) very toxic to fish.

LC<sub>50</sub> (rainbow trout) (96hr) 0.24ug/l

**Very toxic to aquatic organisms**

Avoid contamination of any water supply with this product or empty container

**Acute Toxicity (birds)** slightly toxic to birds

LD<sub>50</sub> (mallard duck) >3,948mg/kg

LC<sub>50</sub> (bobwhite quail) >500ppm

**Acute Toxicity (bees)** very toxic to bees, spray must not contact plants in flower if they are likely to be visited by bees.

LD<sub>50</sub> 38ng/bee (oral), contact LD(50) 909ng/bee.

**Soil Toxicity;** not toxic to earthworms

### Section 13: DISPOSAL INFORMATION

Disposal Method:	Triple rinse container and add rinsate to the spray tank. Dispose of product only by using in accordance with label directions, or through Agrecovery Chemical Recovery Service or alternative approved programs.
Container Disposal:	 Triple rinsed containers containing the Agrecovery logo on the label and that are free of all residues and have an intact legible label may be taken to an Agrecovery collection site for free recycling. Otherwise crush and bury in an approved landfill. Do not burn. Do not use container for any other purpose.
Precautions or methods to avoid:	Do not allow product or empty container to contaminate any waterway.

### Section 14: TRANSPORT INFORMATION

This product is classified as a Dangerous Good for transport in NZ; NZS 5433:2020



#### Road, Rail, Sea and Air Transport

UN No	3352
Class - Primary	6.1
Packing Group	III
Proper Shipping Name	PYRETHROID PESTICIDE LIQUID TOXIC
Marine Pollutant	Yes
Special Provisions	If the product's individual container is below 5L, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information in accordance with Chapter 3.4 of the UNRTDG.

### Section 15: REGULATORY INFORMATION

This substance is classified hazardous according to the EPA Hazardous Substances (Classification) Notice 2020

EPA Approval Code: HSR000336

HSW (HS) Regulations 2017	Trigger Quantity
Location Certificate	1000L
Certified Handlers	Not required
Signage Trigger Quantities (Schedule 3)	100L
Emergency Response Plan (Schedule 5)	100L
Secondary Containment (Schedule 5)	100L
Tracking (Schedule 26)	Not required
<b>HSNO Additional Controls (Restrictions of use)</b>	
77A -	The substance must not be applied onto or into water.
<b>ACVM Act and Regulations</b>	
See <a href="http://www.foodsafety.govt.nz">www.foodsafety.govt.nz</a> for registration conditions	<b>P8072</b>

### Section 16: OTHER INFORMATION

#### Glossary

EC <sub>50</sub>	Median effective concentration.
EEL	Environmental Exposure Limit.

EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.
LC <sub>50</sub>	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD <sub>50</sub>	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2023 14th edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2020
5. HSW (Hazardous Substances) Regulations 2017

**Disclaimer**

This document has been prepared by TCC (NZ) Ltd and serves as the suppliers Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to TCC (NZ) Ltd or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer. While TCC (NZ) have taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, TCC (NZ) Ltd accept no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS

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Please contact Ravensdown, if further information is required.

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