

UNIVERSAL LAMBDA KILL 106 CS

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: LAMBDA KILL 106 CS
Other identifier: Lambda-cyhalothrin 106 CS
Recommended use: Insecticide
Restrictions on use: Public health, hygiene and industrial

Supplier: Universal Crop Protection (Pty) Ltd.
Co. Reg. No.: 1983/008184/07
 PO Box 801,
 Kempton Park, 1620, South Africa
Telephone: (011) 396 2233
Fax: (011) 396 4666
Website: www.villacrop.co.za

Emergency telephone numbers:
24 Hr Transport / Spill emergency no:
 Envirosure. +27 31 205 4918
 (Hazcall24) +27 86 044 4411
 (Client: Villa Crop Protection)
 Griffon Poison Information Centre +27 82 446 8946
 (Client: Villa Crop Protection)
Poisoning Emergency telephone numbers:
 Griffon Poison Information Centre +27 82 446 8946
 Poisons Information Centre +27 861 555 777
Villa Crop Protection Emergency number:
National Safety, Health and Environmental Manager:
 +27 63 698 0668

2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	Hazard categories	H-statements
Health		
Oral	Acute Tox. 4	H302
Aspiration hazard	Asp. Tox. 1	H304
Dermal	Acute Tox. 5 Skin irrit. 2	H313 H315
Inhalation	Acute Tox. 3	H331
Environment		
Aquatic acute	Aquatic acute 2	H401
Aquatic chronic	Aquatic chronic 2	H411

The most important adverse effects:
Physiochemical effects: None known.
Human health effects:
 May be fatal if swallowed and enters airways.
 Toxic if inhaled.

Label elements:



Signal word: Danger.

Hazard statements:

H302: Harmful if swallowed.
 H304: May be fatal if swallowed and enters airways.
 H313: May be harmful in contact with skin.
 H315: Causes skin irritation.
 H331: Toxic if inhaled.
 H401: Toxic to aquatic life.
 H411: Toxic to aquatic life with long lasting effects.

Precautionary statements:

P261: Avoid breathing mists, vapours or spray.
 P264: Wash hands and face 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 into the environment.
 P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
 P302/352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.
 P304/340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P332/313: If skin irritation occurs: Get medical advice.
 P362/364: Take off contaminated clothing and wash it before reuse.
 P391: Collect spillage.
 P501: Dispose of content/container to suitable landfill in accordance with local regulations.

Special labelling of certain mixtures:

None known.

Other hazards:

None known.

Toxicity:

Classification according to GHS: Category 3.
 Classification according to WHO: Category II.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture.

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Composition:

Chemical Name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Lambda-cyhalothrin	91465-08-6	10.6 %	Acute Tox. 3 (H301) Acute Tox. 4 (H312) Acute Tox. 2 (H330) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Solvent	1330-20-7 / 64742-94-5	< 20 %	Flam. Liq. 3 (H226) Acute Tox. 4 (H312) Skin Irrit. 2 (H315) Acute Tox. 4 (H332) Asp Tox. 1 (H304)
Atlox-4913	/	< 5%	Eye Irrit. 2 (H319) Skin Irrit. 3 (H316)

high vapour levels may cause headaches, drowsiness or dizziness.

Anticipated delayed effects: Nausea, vomiting, diarrhoea, abdominal pain, ataxia, unsteady gait, hyperexcitability, salivation, tremors and incontinence.

Most important symptoms/effects: Ingestion of large amounts may cause convulsions and loss of consciousness.

Advice to physician: There is no specific antidote available. This product contains materials that may cause severe pneumonitis if aspirated. In cases of ingestion, consider gastric lavage however, prevent aspiration. Observe patient for respiratory difficulty from aspiration pneumonitis. Treat symptomatically and supportively.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Extinguish small fires with water spray, carbon dioxide, dry powder or alcohol-resistant foam. For large fires, use alcohol-resistant foam.

Unsuitable Extinguishing Media: High volume water jet.

Specific hazards: Irritating or hazardous gases may be generated by thermal decomposition or combustion.

Special Fire Fighting Procedures: Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Keep upwind. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal. Do not use high volume water jet, due to contamination risk. Do not scatter the burning material. Contain fire control agents and waster for later disposal. Avoid pollution of waterways by run-off from the site.

Personal protective equipment: Wear NIOSH/MSHA approved self-contained breathing apparatus and full bunker gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Do not breathe in fumes. Ventilate area of spill or leak, especially in contained areas. Avoid contact with eyes and skin.

Protective equipment: Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.

Emergency procedures: Alert firefighting personnel, evacuate unprotected personnel and animals.

Environmental Precautions: Prevent spilled product from entering sewers, waterways or ground water as the product is classified to be very toxic to aquatic organisms

4. FIRST AID MEASURES

Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of any complaints or symptoms, avoid further exposure. Immediately consult a doctor.

Inhalation: Remove source of contamination or move victim to fresh air. Keep affected person warm and at rest. Seek medical attention.

Skin: Gently wipe of excess chemical. Remove contaminated clothing, shoes and leather goods and wash before re-using. Wash skin thoroughly with water and non-abrasive soap. If irritation persists obtain medical attention.

Eyes: Immediately flush eyes with clean water. Lift eyelid (s) to facilitate irrigation. If present, remove contact lenses after and continue rinsing.

Ingestion: Seek medical attention or call a poison control centre for treatment advice if you feel unwell. Do NOT induce vomiting unless instructed to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person. If the person is alert, rinse mouth thoroughly with water. Avoid aspiration as product contains a solvent.

Anticipated acute effects: Transient paraesthesia effects (itching, tingling, burning or numbness) or allergic skin reactions may occur from skin contact. Pulmonary oedema and pneumonitis may result from aspiration. Inhalation of

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and may cause long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into water courses should be immediately reported to the police and the Department of Water/Environmental Affairs.

Methods and Materials for Containment: Contain spilled product by diking area with sand, earth, vermiculite or clay.

Methods and Materials for Clean-up: Cover contained spill with an inert absorbent material such as sand, vermiculite, earth or other appropriate material. Vacuum, scoop, or sweep up material and place the material into a clean, dry, sealable container. Label containers with the contents and dispose of according to local regulations. Do not place spilled material back in original container. Do not re-use spilled material. Collect washings and add to the drums already collected. Do not flush spilled material or washings into drains or waterways. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. See section 13 for disposal considerations.

7. HANDLING AND STORAGE

Handling:

Precautions for safe handling: May be toxic if inhaled. Ensure adequate ventilation during handling and use. May be harmful if swallowed. Avoid contact with eyes and skin. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers tightly closed when not in use. In the case of contact with the product refer to First Aid Measures – Section 4.

General occupational hygiene: Practice good hygiene when using this material. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used again.

Storage:

Conditions for safe storage: Keep out of reach of unauthorised persons, children and animals. Store in its original labelled container in an isolated, dry, cool and well-ventilated area. Do not store near heat, open flame, sources of ignition or hot surfaces. Avoid cross contamination with other pesticides and fertilisers. Local regulations should be complied with.

Incompatible substances and mixtures: Refer to product label.

Packaging material: Fluorinated plastic containers.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Components	Exposure limits	Type of exposure limit	Source
Lambda-Cyhalothrin	Not established	0.04 mg/m ³ TWA (Dermal)	OEL
Solvent	100 ppm	435 mg/m ³ (TWA)	OSHA PEL

Engineering Controls:

It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

Personal Protective Equipment:

Respiratory Protection: Wear an organic cartridge respirator suitable for protection from mists/ vapours of pesticides if inhalation is likely to occur.

Hand Protection: The employee must wear appropriate chemically resistant gloves e.g. nitrile rubber gloves, to prevent contact with this mixture.

Eye Protection: Wear a face shield when handling the concentrate and when applying the product. The use of safety goggles is recommended if a face shield is not used.

Skin and Body Protection: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

Emergency eyewash: Where there is any possibility that an employee's eyes may be exposed to this mixture; the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Off-white to pale yellow liquid, capsule suspension.

Odour: Slight aromatic odour.

pH (1% aqueous dilution): 4.5 to 9.0

Melting point: Not available.

Freezing Point: Not available.

Boiling Point: Not available.

Flash Point: > 90°C.

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Flammability: Not flammable.
Upper/lower explosion limits: Not available.
Vapour Pressure (mm Hg): Not available.
Relative Vapour Density: Not available.
Density/Relative density: 1.01 g/ml @ 20°C.
Solubility: Suspends in water.
n-octanol/water partition coefficient: Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.

10. STABILITY AND REACTIVITY

Chemical Stability: Product is stable at ambient temperature and pressure, under normal storage and handling conditions. Stable for up to 2 years when stored in a dry, cool covered warehouse in original, well-labelled containers. Store at low temperature conditions, below 50°C, preferably below 30 °C and not for prolonged periods in direct sunlight.
Reactivity: None known.
Possibility of Hazardous Reactions: None Known.
Conditions to Avoid: Avoid extreme heat or exposure to flames.
Incompatible Materials: None known.
Hazardous Decomposition Products: Can decompose at high temperatures and form irritant or hazardous gases.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Calculated according to GHS
Oral LD₅₀ (24 h) rat > 500 mg/kg.
Dermal LD₅₀ (24 h) rat > 3900 mg/kg.
Inhalation LC₅₀ (4 h) rat > 0.56 mg/l.
Skin Irritation/Corrosion: Causes skin irritation. May cause an allergic reaction or paresthesia.
Eye Damage/Irritation: Not available.
Skin Sensitization: Not available.
Respiratory Sensitization: May be toxic if inhaled, may cause irritation to the nose and throat.
Reproductive cell mutagenicity: Not available.
Carcinogenicity: Not available.
Reproductive toxicity: Not available.
Specific target organ toxicity – single exposure: Not available.
Specific target organ toxicity – repeated exposure: Not available.
Aspiration hazard: Not available.
Chronic Effects: Not available.
POTENTIAL ADVERSE EFFECTS:
Inhalation: May cause headaches, drowsiness or dizziness.
Skin contact: Allergic skin reactions are possible. Transient paraesthesia effects (itching, tingling, burning or numbness) may occur from skin contact.

Eye contact: None known.
Ingestion: May cause headaches, drowsiness or dizziness.
Other: Pulmonary oedema and pneumonitis may result from aspiration.

12. ECOLOGICAL INFORMATION

This product is very toxic to aquatic life with long lasting effects.

ECOTOXICITY DATA: AI – Lambda-cyhalothrin

Fish:

LC ₅₀ (96h):	Rainbow trout:	0.36 µg/l.
	Bluegill sunfish:	0.21 µg/l.

Daphnia:

EC ₅₀ (48 h)	<i>D. magna</i>	0.36 µg/l.
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Algae:

ErC ₅₀ (96h)	<i>S. capricornutum</i>	>1000 µg/l.
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Other aquatic organisms: Intrinsic toxicity to aquatic organisms is greatly reduced by rapid loss from the water by adsorption and degradation.

Birds:

LD ₅₀	Mallard ducks	> 3950 mg/kg.
Dietary LC ₅₀	Quail	> 5300 mg/kg.

No accumulation of residues in eggs or tissues.

Bees:

LD ₅₀ (oral)	38 ng/bee.
LD ₅₀ (contact)	909 ng/bee.

Worms:

LC ₅₀	<i>Eisenia foetida</i>	>1000 mg/kg soil.
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Plants:

For details of metabolism of lambda-cyhalothrin in cotton and soya bean leaves, see D. A. French & J. P. Leahey, *Proc. Br. Crop Prot. Conf. - Pests Dis.*, 1990, 3, 1029-1034.

ENVIRONMENTAL EFFECTS:

Persistence and degradability: Rapidly degraded in soil; DT₅₀ for microbial degradation 23-82 d, for field soil 6-40 d. Strongly adsorbed to soil and sediment organic matter, K_{oc} 330 000. Negligible potential for leaching of lambda-cyhalothrin and its degradation products through soil. Rapid dissipation from water in aquatic systems. DT₅₀ for dissipation from surface waters in lab. water-sediment systems 5-11 h; in a microcosm DT₅₀ <3 h. Rapid and extensive degradation of parent compound in aquatic systems; DT₅₀ for degradation in lab. water-sediment systems 7-15 d; in a microcosm DT₅₀ <3 h, DT₉₀ <3 d.

Bio-accumulative Potential: Lambda-cyhalothrin does not bioaccumulate.

Mobility in soil: Lambda-cyhalothrin is immobile in soil.

Other adverse effects: Not determined.

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13. DISPOSAL CONSIDERATIONS

Waste: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never pour untreated waste or surplus product into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Waste should only be handled by licensed facilities.

Container: Emptied containers retain vapour and product residues. Do not re-use the empty container for any other purpose. Triple rinse empty containers by inverting the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter, rinse the container three times with a volume of water equal to a minimum of one third of that of the container. Add the rinsings to the contents of the spray tank before recycling or destroying the container in the prescribed manner. Observe all labelled safeguards until container is destroyed.

14. TRANSPORT INFORMATION

UN NUMBER: 2902

Road Transport ADR/RID:

Class: 6.1
 Packaging group: III
 Shipping name: Pesticide, liquid, toxic, n.o.s.
 (Lambda-cyhalothrin 106 g/l)

Maritime Transport IMDG/IMO:

Class: 6.1
 Packing group: III
 Shipping name: Pesticide, liquid, toxic, n.o.s.
 (Lambda-cyhalothrin 106 g/l)

Marine Pollutant: Yes

Air Transport IATA/ICAO:

Class: 6.1
 Packaging group: III
 Shipping name: Pesticide, liquid, toxic, n.o.s.
 (Lambda-cyhalothrin 106 g/l)

Special/Environmental Precautions: Wedge drums tightly to avoid movement.

Transport in bulk (according to MARPOL 73/78, Annex II and the IBC code): Not applicable.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation for the mixture:

OHS 1993 Regulations for Hazardous Chemical Substances.

Relevant information regarding restrictions: None.

EU regulation: Regulation EC1272/2008 (EU-GHS/CLP)

Other national regulations: None.

Chemical Safety Assessment carried out? No

16. OTHER INFORMATION

Packaging: Packed in 10 ml, 20 ml, 50 ml, 100 ml, 250 ml, 500 ml and 1 litre fluorinated plastic containers, labelled according to South African regulations and guidelines.

Additional H-statement (s) (formulants)

H226: Flammable liquid and vapour.

H301: Toxic if swallowed.

H312: Harmful in contact with skin.

H316: Causes mild skin irritation.

H320: Causes eye irritation.

Disclaimer: The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed. All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

END OF DOCUMENT

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For detailed information on revisions, contact the Registration holder.