

LAMBDA 50 EC

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: LAMBDA 50 EC
Other identifier: LAMBDA-CYHALOTHRIN 50 EC
Recommended use: Insecticide
Restrictions on use: Agriculture

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:

(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

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 Toxicity 4	H302
Aspiration	Aspiration Toxicity 1	H304
Dermal	Acute Toxicity 4 Skin Irritation 3	H312 H316
Eye	Eye Damage 1	H318
Inhalation	Acute Toxicity 4	H332
Environment		
Aquatic acute	Aquatic Acute 1	H400
Aquatic chronic	Aquatic Chronic 1	H410

The most important adverse effects:

Physicochemical effects: None known.

Human health effects:

Causes serious eye damage.

Label elements:



Signal word: Danger

Hazard statements:

H302: Harmful if swallowed.

H304: May be fatal if swallowed and enters airways.

H312: Harmful in contact with skin.

H316: Causes mild skin irritation.

H318: Causes serious eye damage.

H332: Harmful if inhaled.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

Precautionary statements:

P261: Avoid breathing dust, fume, gas, mists, vapours or spray.

P264+P265: Wash hands and face thoroughly after handling. Do not touch eyes.

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.

P301+P316: IF SWALLOWED: Get medical help immediately.

P302+P352: IF ON SKIN: Wash with plenty water and non-abrasive soap.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P354+P338: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.

P317: Get medical help.

P331: Do NOT induce vomiting.

P362+P364: Take off contaminated clothing and wash it before reuse.

P391: Collect spillage.

P405: Store locked up.

P501: Dispose of contents/container to suitable landfill in accordance with local regulations.

Other hazards:

None known.

Toxicity:

Classification according to GHS: Category 4

Classification according to WHO: Group II

Classification according to GPIC: Category II

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3. COMPOSITION / INFORMATION ON INGREDIENTS

Mixture: Composition:

Chemical name	CAS	Conc. (m/v%)	Classification EC 1272/2008
Lambda-cyhalothrin TC	91465-08-6	5.27 %	Acute Toxicity 3 (H301) Acute Toxicity 4 (H312) Acute Toxicity 2 (H330) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Phenylsulfonate salt	26264-06-2	< 10 %	Acute Toxicity 4 (H302) Skin Irritation 2 (H315) Eye Damage 1 (H318) Aquatic Chronic 4 (H413)
Heavy aromatic solvent	64742-94-5	< 90 %	Aspiration Toxicity 1 (H304)

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: If vapours or mists have been inhaled, and irritation has developed or victim feels unwell, remove the source of contamination or move victim to fresh air. Keep the patient under observation. If irritation persists or patient feels unwell, obtain medical attention.

Skin: Remove contaminated clothing, shoes and leather goods. Wash skin gently and thoroughly with cold water and non-abrasive soap. Do not rub the skin. Apply olive oil to affected areas for prompt relief. Get medical attention if irritation occurs and persists.

Eyes: Flush eyes immediately with large amounts of gently flowing cold water, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15 to 20 minutes). **Immediately get medical attention.**

Ingestion: Do not induce vomiting due to aromatic solvent. Do not give anything by mouth to an unconscious person. If the person is alert, rinse mouth thoroughly with water. Obtain medical attention immediately. Treat respiratory difficulty with artificial respiration and oxygen. If spontaneous vomiting occurs,

have victim lean forward with head down to avoid breathing in of vomitus.

Anticipated acute effects:

Harmful if swallowed.
 May be fatal if swallowed and enters airways.
 Harmful in contact with skin.
 Causes mild skin irritation.
 Causes serious eye damage.
 Harmful if inhaled.

Anticipated delayed effects: None known.

Most important symptoms: Nausea, vomiting, diarrhoea, abdominal pain, ataxia, unsteady gait, hyperexcitability, salivation, tremors and incontinence.

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. Larger doses may cause convulsions and loss of consciousness.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Use as little water as possible. Use spray or fog. Solid stream may cause spreading. Contain water used for fire fighting for later disposal.

Unsuitable Extinguishing Media: High volume water jet. Use a water jet only to cool heated containers.

Specific hazards: Fire may produce irritating or poisonous vapours, and may include hydrocarbons, ammonia, organic and acid halids, oxides of carbon, nitrogen and sulphur mists or other products of 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. Remain upwind of fire. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do not use high volume water jet, due to contamination risk. Do not scatter the burning material. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents 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 protective gear.

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6. ACCIDENTAL RELEASE MEASURES

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

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. This product is classified as very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into watercourses should be reported immediately to the police and the Department of Water / Environmental Affairs.

Methods and Materials for Containment: For small liquid spills, soak up with lime, damp earth or sand, or other non-combustible absorbent material and place into containers for later disposal.

Methods and Materials for Clean-up: Remove all sources of flames and sparks. For small liquid spills, soak up with lime, damp earth or sand, or other non-combustible absorbent material and place into containers for later disposal. For large liquid spills, contain the liquid for later disposal. 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 fatal if swallowed and enters airways. Harmful if swallowed. Harmful in contact with skin. Causes serious eye damage. Do not touch eyes. Avoid breathing dust, fume, gas, mists, vapours or spray. Use with adequate ventilation. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers 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 product. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Operators should change and wash clothing daily. Remove clothing immediately if the insecticide gets inside. Wash skin thoroughly using a non-abrasive soap and put-on clean clothing. Do not apply directly to areas where surface water is present, or to

intertidal areas below the mean high-water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

Storage:

Conditions for safe storage: Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original, labelled container, tightly closed in an isolated, dry, cool and well-ventilated area. Do not store near heat, open flame, sources of ignition or hot surfaces and avoid excess heat. Not to be stored next to foodstuffs, feed and water supplies. Avoid cross contamination with other pesticides and fertilisers.

Incompatible substances and mixtures: Refer to product label.

Packaging material: Fluorinated plastic containers.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

No occupational exposure limits have been determined for the significant ingredients in this product.

Engineering Controls:

It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this product is used and on the extent of exposure. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OELs 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: If used in a poorly ventilated area (airborne concentrations exceed exposure limits), use an approved respirator (NIOSH approved, air-purifying respirator with cartridges / canisters approved for organic vapours) suitable for protection from mists of pesticides is adequate. Limitations of respirator use specified by the approved agency and the manufacturer must be observed.

Hand Protection: Employee must wear appropriate synthetic protective gloves to prevent contact with this product.

Eye Protection: The use of chemical safety goggles is recommended to prevent against eye contact. **This product causes serious eye damage.** Contact lenses are not protective eye devices.

Skin and Body Protection: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this product. Do not wear leather clothing.

Emergency eyewash: Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or

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appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Homogeneous clear yellow liquid without coagulation, emulsifiable concentrate.
Odour: Chemical odour.
Odour threshold: Not available.
pH (1% aqueous dilution): 6.6 (1% m/v solution).
Melting point: Not available.
Freezing Point: Not available.
Boiling Point: Not available.
Flash Point: Not available.
Flammability: Not flammable.
Upper / lower explosion limits: Not available.
Vapour Pressure (mm Hg): Not available.
Relative Vapour Density: Not available.
Density / Relative density: 0.998 ± 0.05 g/ml @ 20°C.
Solubility: Emulsifies 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: The product is stable for two years at ambient temperature and pressure, under normal storage and handling conditions. Avoid storage under extreme temperatures and conditions. Store below 50°C, preferably below 30°C, and not for prolonged periods in direct sunlight.
Reactivity: None known.
Possibility of hazardous reactions: Unlikely to occur.
Conditions to avoid: Extreme heat or exposure to flames.
Incompatible materials: Incompatible with strong oxidizing substances and strong acids and alkaline materials.
Hazardous decomposition products: Thermal decomposition products are toxic and may include hydrocarbons, ammonia, organic and acid halids, oxides of carbon, nitrogen and sulphur.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
 Calculated according to GHS.
Oral LD₅₀ (24h) >1000 mg/kg (rat)
Dermal LD₅₀ >1900 mg/kg (rabbit)
Inhalation LC₅₀ (4h) > 1.0 mg/l (rat)
Skin Irritation: Causes mild skin irritation.
Eye Damage: Causes serious eye damage.
Skin Sensitization: Not available.
Respiratory Sensitization: Not available.
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: May be fatal if swallowed and enters the airways.
Chronic Effects: Not available.
POTENTIAL ADVERSE EFFECTS:
Inhalation: Harmful if inhaled.
Ingestion: Aspiration toxicity.
Other information: Not available.

12. ECOLOGICAL INFORMATION

This product is expected to be very toxic to aquatic organisms.

ECOTOXICITY DATA:

Active ingredient

Fish:

LC ₅₀ (96 h)	Rainbow trout	0.00036 mg/l
	Bluegill sunfish	0.00021 mg/l
	Channel catfish	0.00016 mg/l
	Zebrafish	0.00064 mg/l
	Fathead minnows	0.00070 mg/l

Daphnia:

EC ₅₀ (48 h)		0.00023 mg/l
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Algae:

E _r C ₅₀ (92 h)	<i>Selenastrum capricornutum</i>	>1.0 mg/l
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Birds:

Acute oral LD ₅₀	Mallard ducks	>3950 mg/kg
Dietary LD ₅₀ (8d)	Quail	>5300 mg/kg diet

Bees:

LD ₅₀ contact		0.038 µg/bee
LD ₅₀ oral		0.909 µg/bee

Worms:

LC ₅₀	<i>Eisenia fetida</i>	>1000 mg/kg soil
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ENVIRONMENTAL EFFECTS

Based on information for the active ingredient

Plants: See D.A. French & J.P. Leahey, *Proc. Br. Crop Prot. Conf. – Pests Dis.*, 1990, 3, 1029-1034.

Persistence and degradability: Rapidly degraded in soil; DT₅₀ under lab conditions 23-82 days; in field 6-40 days. Rapid dissipation from water in aquatic system. DT₅₀ for dissipation from surface waters in lab, water-sediment systems 5-11 hours; in a microcosm, DT₅₀ <3 hours. Rapid and extensive degradation of parent compound in aquatic systems, DT₅₀ for degradation in lab, water-sediment systems 7-15 days; in a microcosm, DT₅₀ <3 hours, DT₉₀ <3 days.

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Bio-accumulative potential: 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.

Mobility in soil: Not determined.

Other adverse effects: Not determined.

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. Comply with local legislation applying to waste disposal. Considered a Marine Pollutant. Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed.

Container: Emptied containers retain product residues. Do not re-use the empty container for any other purpose. Invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. Thereafter rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank.

Puncture the triple rinsed container and dispose of via an approved collector or recycler (www.croplife.co.za). Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages. Observe all labelled safeguards until container is destroyed.

14. TRANSPORT INFORMATION

UN Number: 3082
Road Transport ADR / ORD:
 Class: 9
 Packaging group: III
 UN Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S. (Lambda-cyhalothrin 50 g/l)

Maritime Transport IMDG / IMO:
 Class: 9
 Packaging group: III
 UN Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S. (Lambda-cyhalothrin 50 g/l)

Marine pollutant (Y/N):
Air Transport IATA / ICAO:
 Class: 9
 Packaging group: III
 UN Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S. (Lambda-cyhalothrin 50 g/l)

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

Transport in bulk: Refer to MARPOL 73/78, Annex II and the IBC code.

15. REGULATORY INFORMATION

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

OHSA 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 50, 100, 200, 250, 500 millilitres, 1, 2, 2.5, 5, 10, 20 and 25 litres fluorinated plastic containers and labelled according to South African regulations and guidelines.

Other hazard statements, abbreviations and explanations:

H301: Toxic if swallowed.

H315: Causes skin irritation.

H413: May cause long lasting harmful effects to aquatic life.

IATA: International Air Transport Association.

IBC: International Bulk Chemical.

ICAO: International Civil Aviation Organization.

IMDG: International Maritime Dangerous Goods

IMO: International Maritime Organization.

LD₅₀ value: The median lethal dose or the amount of a toxic agent that is sufficient to kill 50 percent of a population within a certain period of time.

OEL/RL: Occupational exposure limit-recommended limit.

TWA: Time-weighted average – The average exposure over a specified period, usually a nominal eight hours.

ST/STEL: Short-term exposure limits.

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.