

VILLA RAMBA 100 EC

MATERIAL SAFETY DATA SHEET

1. PRODUCT & COMPANY IDENTIFICATION

Product Name: RAMBA 100 EC
 Insecticide and Acaricide

UN No.: 3351

Supplier: Villa Crop Protection (Pty) Ltd.
 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. COMPOSITION/INFORMATION ON INGREDIENTS

Common Name: Bifenthrin

Chemical Name: 2-Methylbiphenyl-3-ylmethyl (z)- (1RS)-cis-3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate; (IUPAC)

CAS No.: [82657-04-3]

Chemical Family: Pyrethroid Pesticide

Chemical Formula: C₂₃H₂₂ClF₃O₂ (Mol. wt.: 422.9)

Formulation: Bifenthrin: 100 g/l
 Emusifiable concentrate

Use / Mode of Action: Contact and stomach action. Effective against a broad range of foliar pests, including Coleoptera, Diptera, Heteroptera, Homoptera, Lepidoptera and Orthoptera; it also controls some species of Acarina.

Hazardous Ingredient:

Component	Concern	Content (g/l)
Bifenthrin		min. 100
Dimethyl Benzene	harmful, irritant, Flammable.	max. 820

SYMBOLS: N, F, X_n, X_i

RISK-PHRASE(S): R 20, 25, 43, 50/53

3. HAZARD IDENTIFICATION

Toxicity class: WHO II (a.i.). EPA (formulation) II. Moderately hazardous.

Likely routes of exposure: Skin and eye contact, ingestion and inhalation.

Eye contact: Mild irritant.

Skin contact: Mild skin irritant.

Inhalation: Not applicable.

Excessive exposure to dust may irritate the respiratory system, skin and eyes. The product may cause diarrhoea in animals. Contact with **Bifenthrin** may occasionally produce skin sensations such as rashes, numbing, burning or tingling. These sensations are reversible and usually subside within 12 hours.

Flammable, harmful substance and environmentally Hazardous Substance

Very toxic to fish and aquatic organisms.

4. FIRST AID MEASURES AND PRECAUTIONS

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. Excessive exposure to mist may irritate the respiratory system, skin and eyes. Contact with **Bifenthrin** may occasionally produce skin sensations such as rashes, numbing, burning or tingling.

Inhalation: Immediately remove source of contamination or move victim to fresh air. If breathing has stopped, perform artificial respiration and administer oxygen. Avoid mouth-to-mouth resuscitation. Keep person warm and at rest. Treat symptomatically and supportively as and when required. **Seek medical advice immediately.**

Skin contact: Remove contaminated clothing, shoes and leather goods immediately. Gently wipe off excess chemical. Wash skin gently and thoroughly with non-abrasive soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15 to 20 minutes). Seek medical advice if necessary.

Eye contact: Flush eyes immediately with large amounts of gently flowing cold water or normal saline solution, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15 to 20 minutes). If irritation persists, get medical attention.

Ingestion: Have victim rinse mouth thoroughly with water. **Do not induce vomiting, due to the aromatic solvent.**

Seek medical advice immediately. If the person is alert and respiration is not depressed, give large quantity of water to drink. Never give anything by mouth to an unconscious person. Establish and maintain airway. Treat respiratory difficulty with artificial respiration and oxygen. Qualified medical personnel should perform administration of gastric lavage or oxygen.

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Advice to physician: This product has low oral and dermal toxicity. It is non-irritating to the eyes and skin. This product contains a granular material (sand) that may cause mechanical irritation to the eyes. Reversible skin sensation (paraesthesia) may occur and ordinary skin salves have been found useful in reducing discomfort. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

Occupational spill: Do not touch-spilled material; stop leak if you can do it without risk. Keep out unprotected persons and animals.

For spills: Soak up with absorptive material such as damp earth or sand or other suitable non-combustible absorbent material. Place the material into a clean, dry container and cover for subsequent disposal. In situations where product comes in contact with water, contain contaminated water for later disposal. Prevent material from spreading by damming in with absorptive material. Do not flush spilled material into drains. Keep spectators away and upwind.

To decontaminate spill area, tools and equipment, wash with a suitable solution (i.e. organic solvent, detergent bleach or caustic). Add the solution to the drums already collected. Label drums with its content and dispose it in accordance with local regulations. Open burning or dumping of this material is prohibited. Do not get water inside containers.

5. FIRE FIGHTING MEASURES

Fire/Explosion hazard: **Flammable.** Product is **Flammable** due to inert dimethyl benzene (xylene).

Flash point: 28 °C.

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Hydrogen chloride and Hydrogen fluoride.

Extinguishing agents: 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 firefighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Firefighting: Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire.

Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind. 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.

Dyke fire control water for later disposal. Do not scatter the material. Avoid pollution of waterways.

Do not use high volume water jet, due to contamination risk. Contain water used for firefighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Personal protective equipment: Fire may produce irritating or poisonous vapours or gases (oxides of chlorine and sulphur) or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

7. HANDLING AND STORAGE REQUIREMENTS

Handling: Harmful if swallowed. Avoid inhalation and contact with eyes and skin. Use with adequate ventilation. Do not handle broken packages without protective equipment. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Remove clothing immediately if the product gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Seek medical advice.

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.

Worker should shower at the end of each work day. Launder all clothing before it is re-used again.

Storage: Store in its original container in dry, cool, well-ventilated area. Do not store near heat, open flame or hot surface. Store in original containers only. Not to be stored next to foodstuffs and water supplies.

Keep out of reach of children, uninformed persons and animals. Do not contaminate other pesticides and fertilizers.

Storage stability: Stable for a period of 2 years at 25 °C and 50 °C in natural daylight DT₅₀ 255 d, stable 21 °C d at pH 5-9 (tech).

6. ACCIDENTAL RELEASE MEASURES (Spillage)

Personal precautions: Avoid contact with skin and eyes. Do not breathe in fumes. For personal protection see Section 8.

Environmental precautions: **Bifenthrin** is highly toxic to fish and other aquatic organisms. Is an environmentally hazardous substance.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on

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how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

PERSONAL PROTECTIVE EQUIPMENT: Respirator: An approved full-face respirator suitable for protection from spray or mists of pesticides is required. For dust exposure wear, as a minimum, a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides. Respiratory use and selection must be based on airborne concentrations. Limitations of respirator use specified by the approved agency and the manufacturer must be observed.

Clothing: Employee must wear appropriate protective (impervious) clothing; overalls or long-sleeves uniform, boots, hat and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing.

Gloves: Employee must wear appropriate chemical resistant protective gloves to prevent contact with this substance.

Eye protection: The use of chemical resistant goggles or face shield.

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 appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: light brown.

Odour: Mild solvent odour.

Relative density: 0.97.

Flash point: 28 °C.

Water Solubility: In water 0.1 mg/l (25 °C). Soluble in acetone, heptane and methanol. (tech.).

Flammability: Flammable.

Flash Point: 28 °C

pH: 6 to 7.

10. STABILITY AND REACTIVITY

Stability: Stable for a period of 2 years at 25 °C and 50 °C.

Hazardous decomposition: Not applicable.

Hazard Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Formulation (calculated):

Acute oral LD₅₀: 500 to 600 mg/kg.

Acute dermal LD₅₀: > 6000 mg/kg in rabbits.

Acute inhalation LC₅₀: Not applicable (tech).

Acute skin irritation: Non-skin irritant (tech.).

Acute eye irritation: Non-eye irritant (tech.).

Sensitization: No skin sensitization (guinea pigs) (tech.)

Teratogenicity/Development: Bifenthrin: NOEL: (1y) for dogs 1.5 mg/kg daily), is non-teratogenic in rats (≥ 2mg/kg daily) and rabbits (8 mg/kg daily).

Mutagenicity: No data available for the formulation. In studies with laboratory animals, **Bifenthrin** did not cause reproductive toxicity or teratogenicity. Tremors were associated with repeated exposure with rodents, a slight increase in the incidence of urinary bladder tumours at the higher dose in male mice was considered to be an equivocal response, not evidence of clear compound-related effect. The overall absence of genotoxicity has been demonstrated in mutagenicity tests with **Bifenthrin**.

Carcinogenicity: IARC: Not listed **NTP:** Not listed **OSHA:** Not listed.

ADI: (JMPR) 0.02 mg/kg.

12. ECOLOGICAL INFORMATION

In animals: The majority of administered substance is excreted, with elimination complete in 48 h. extensively metabolised, hydroxylated and conjugated.

In plants: Extensively metabolised, with 50-80% hydrolysis. The most important metabolite is 4'-hydroxibifenthrin.

In the soil: DT₅₀ (lab.) 53-192 d (mean 106 d). K_{oc} 1.31-3.02 × 10⁵.

ECOTOXICOLOGY:

Birds:

LD₅₀: Bobwhite quail 1800 mg/kg (tech.)

Mallard ducks: 2150 mg/kg (tech.)

LC₅₀ 8-day diet: Bobwhite quail: 4450 mg/kg (tech.)

Mallard ducks 1280 mg/kg (tech.)

Fish: Very toxic to fish.

LC₅₀ (96 hours): Bluegill sunfish 0.00035 mg/l (tech.)

Rainbow trout: 0.00015 mg/l (tech.)

Daphnia:

LC₅₀ (48 h): 0.00016mg/l (tech)

Bees:

LD₅₀ (oral): 0.1 µg/bee (tech.)

LD₅₀ (contact, 24 hours): 0.01462 µg/bee (tech)

Earthworms:

LC₅₀: >16 mg/kg dry soil (tech)

Algae: EC₅₀ and E_rC₅₀: >8 mg/l (tech)

13. DISPOSAL CONSIDERATION

Pesticide disposal: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this

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product cannot be reused or reprocessed. Never pour untreated waste or surplus products 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.

Container disposal: Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed.

TRIPLE RINSE empty containers in the following manner: Invert 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 a third of the volume of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner. Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dumpsite. Prevent contamination of food, feedstuffs, drinking water and eating utensils. Comply with local legislation applying to waste disposal.

14. TRANSPORT INFORMATION

UN No.: 3351
Road Transport ADR/IRD:
 Class: 6.1
 Packing group: III
 Shipping name: Pyrethroid pesticide, liquid, toxic, **Flammable (Bifenthrin 10 % EC)**

Maritime Transport IMDG/IMO:
 Class: 6.1
 Packing group: III
 Shipping name: Pyrethroid pesticide, liquid, toxic, **Flammable (Bifenthrin 10 % EC)**

15. REGULATORY INFORMATION

Symbol: N, F, X_n, X_i
Indication of danger: **Flammable**, harmful substance, environmentally Hazardous Substance and Irritant due to Xylene

Risk phrases:
R 10 **Flammable.**
R 20 Harmful by inhalation.
R 25 Toxic if swallowed.
R 43 May cause sensitization by skin contact.
R 50/53 Very toxic to aquatic organisms may cause long-term adverse effect in the aquatic environment.

Safety phrases:

- S 1/2** Keep locked up and out of the reach of children.
- S 3/7/9** Keep container tight closed in cool well ventilated place.
- S 13** Keep away from food, drink and animal feeding stuffs.
- S15** Keep away from heat.
- S 20/21** When using not eat or drink animal feeding stuffs.
- S 29/35** Do not empty into drains; dispose of this material and its container in a safe way.
- S 45** In case of accident or if you feel unwell, seek medical advice immediately.
- S 24/25** Avoid contact with skin and eyes.
- S 36/37/39** Wear suitable protective clothing, gloves and eye/face protection.
- S 60** This material and its container must be disposed of as hazardous waste.

16. OTHER INFORMATION

Packing and Labelling: Packed in 50, 100, 150, 200, 500 millilitres and 1, 2, 5, 10, 20, 25 and 50 litres fluorinated plastic containers and labelled according to the South African regulations and guidelines.

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 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.