

## VILLA ROSSI 200 SUPER

## MATERIAL SAFETY DATA SHEET

### 1. PRODUCT & COMPANY IDENTIFICATION

**Product Name:** ROSSI 200 SUPER  
Insecticide

**UN No.:** 2902

**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](http://www.villacrop.co.za)

**Emergency telephone:** (011) 396 2233

**24 Hr Emergency Numbers:**  
Griffon Poison Information Centre 082 446 8946  
Bateleur: 083 1233 911 or  
(Client: Villa Crop Protection) 0860 333 911

**In case of Poisoning:**  
Western Cape Poisons Telephone Service: 0861 555 777  
Griffon Poison Information Centre: 082 446 8946

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

**Common Name:** Fipronil + Lambda-cyhalothrin

**Chemical Name:** ( $\pm$ )-5-amino-1-(2,6-dichloro- $\alpha,\alpha,\alpha$ -trifluoro-*p*-tolyl)-4-trifluoromethylsulfinylpyrazole-3-carbonitrile (IUPAC)  
equal quantities of:  
(*S*)- $\alpha$ -cyano-3-phenoxybenzyl (*Z*)-(1*R*,3*R*)-3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate and  
(*R*)- $\alpha$ -cyano-3-phenoxybenzyl (*Z*)-(1*S*,3*S*)-3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate (IUPAC)

**CAS No.:** [120068-37-3] + [91465-08-6]

**Chemical Family:** fiprole + pyrethroid

**Chemical Formula:** C<sub>12</sub>H<sub>4</sub>Cl<sub>2</sub>F<sub>6</sub>N<sub>4</sub>OS + C<sub>23</sub>H<sub>19</sub>ClF<sub>3</sub>NO<sub>3</sub>

**Use:** Broad-spectrum insecticide, toxic by contact and ingestion. A suspension concentrate contact and stomach insecticide for the control of insects in and around buildings as listed. **PUBLIC HEALTH, HOUSE & GARDEN AND PCO.**

**Formulation:** Fipronil + Lambda-cyhalothrin 200 SC  
Suspension Concentrate

**Hazardous Ingredient:** Fipronil (Fiprole) + Lambda-cyhalothrin (Pyrethroid)

**Symbol:** Xi, Xn

**Indication of danger:** Irritating and harmful substance

**Risk phrases:** R 20/21/22, R 36/37/38, R 43, R 51, R 57

### 3. HAZARD IDENTIFICATION

**Major Health Hazard:** Fipronil is a reversible gamma-aminobutyric (GABA) receptor inhibitor.

**Inhalation:** Moderately toxic by inhalation. Avoid inhalation of spray mist. Long-term inhalation of nuisance dust may overload lung clearance mechanism.

**Eye:** The product may cause mild irritation. Avoid contact with eyes.

**Skin:** The product is a mild irritant to the skin. Can cause dermatitis through defatting of tissue. May cause skin sensitization. Avoid contact with skin.

**Swallowed:** If swallowed, immediately contact a doctor and follow the advice given. Keep under medical supervision.

### 4. FIRST AID MEASURES AND PRECAUTIONS

**In all cases seek medical advice.**

**Skin:** Wear overalls, and a hat and rubber boots. In addition, wear a waterproof apron and respirator when handling the pesticide concentrate. Remove contaminated clothing, shoes and leather goods. Wash skin gently and thoroughly with cold water and non-abrasive soap. Obtain medical attention if irritation persists.

**Eyes:** Flush eyes with clean water for at least 15 to 20 minutes, holding the eyelid(s) open. Remove contact lenses, if present, after the first 5 minutes then continue rinsing eye(s). Obtain medical attention if irritation persists.

**Inhalation:** Harmful. Remove the patient from the source of contamination and keep him/her calm and at rest. Keep air passage open. Obtain medical attention immediately.

**Ingestion:** Obtain medical attention immediately. Do not give anything by mouth to an unconscious person. Keep under medical supervision.

**Advice on treatment:**

Have the product container or label with you when calling a poison control centre or doctor. Fipronil is a reversible gamma-aminobutyric (GABA) receptor inhibitor. During intoxication it will reduce neurological stimulation with possible convulsions. Treat symptomatically. No specific antidote known. Phenobarbital and to a lesser extent, benzodiazepines, have been shown experimentally to be effective in preventing convulsions induced by Fipronil. Due to slow absorption of Fipronil through the gut, symptoms of intoxication may be delayed several hours to one day. Absorption may be decreased by the use of gastric lavage, saline purgative and activated charcoal

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(possible enterohepatic recirculation). Continue monitoring due to slow absorption.

**Lambda-cyhalothrin** 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

**Fire and explosion hazard:** Not flammable.

No risk of an explosion from this product under normal circumstances when involved in a fire.

**Hazardous products of combustion:** None.

**Extinguishing agents:** Extinguish fires with carbon dioxide, dry powder, water or foam. 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 water spray, CO<sub>2</sub>, dry chemical and foam-extinguishing agent for the type of surrounding fire. If area is exposed to fire and conditions permit, let fire burn itself out.

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.

Burning chemicals may produce by-products more toxic than the original material. 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.

Avoid pollution of waterways.

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

**Personal protective equipment:** If product is on fire, wear self-contained breathing apparatus and full protective equipment. Do not breathe fumes from burning material. Keep upwind.

### 6. ACCIDENTAL RELEASE MEASURES (SPILLAGE)

**Personal precautions:** Avoid contact with skin, eyes and clothing and inhalation of the product. Do not breathe in spray or fumes. For personal protection refer Section 8.

**Environmental precautions:** Contain spill and absorb with absorbent material such as earth, sand or clay and store in properly labelled, sealed drums for safe disposal in an approval landfill, or bury under at least 500 mm of soil in a non-crop, non-pasture area away from water sources or homes. 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:** In situations where product comes in contact with water, contain contaminated water for later disposal. Do not flush spilled material into drains. Do not contaminate water while cleaning equipment or disposing of wastes. Keep spectators away and upwind.

### 7. HANDLING AND STORAGE REQUIREMENTS

**Handling:** Harmful by inhalation, skin or eye contact. Avoid inhalation of spray and vapour and contact with eyes and skin. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Operators should change and wash clothing daily. If accidentally in contact, 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:** Keep out of reach of unauthorised persons, children and animals. Store in its original labelled container in isolated, dry, cool and well-ventilated area. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

### 8. EXPOSURE CONTROL / PERSONAL PROTECTION

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

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

**Respirator:** Wear an organic cartridge respirator suitable for protection from mists of pesticides if inhalation is likely to occur.

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

**Gloves:** Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

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

**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:** Suspension concentrate (White to off-white).

**Odour:** Slight odour / Pesticide typical

**Flammability:** Not Flammable.

**Flash point:** Not applicable.

**Melting point:** Not available.

**pH:** 6.0 to 7.0.

**Explosivity:** Not explosive.

**Density:** 1.095

**Solubility in water:** Forms a suspension.

### 10. STABILITY AND REACTIVITY

**Stability:** Stable for 2 years under normal conditions.

**Conditions and Materials to Avoid:** None.

**Hazardous decomposition products:** Toxic thermal decomposition may include oxides of carbon, sulphur and nitrogen and compounds of chlorine and fluorine.

**Instability:** Extreme heat and fire.

### 11. TOXICOLOGICAL INFORMATION

**Acute oral LD<sub>50</sub>:** Formulation: 421 mg/kg.

**Acute dermal LD<sub>50</sub>:** Formulation: 6219 mg/kg.

**Inhalation:** Technical: LC<sub>50</sub> in rats: > 0.26 mg/ℓ (4 hours) (Fipronil). Technical: 0.06 mg/ℓ (4 hours, rats) (Lambda-cyhalothrin).

**Acute skin irritation:** Formulation: Mild irritant.

**Acute eye irritation:** Formulation: Mild-irritant.

**Sensitization:** Ability to be a sensitizer in prolonged exposure.

**Chronic toxicity:** Long-term studies with Fipronil in dogs and rats – NOEL are 0.3/1.0 mg/kg/day (F/M) and LOEL is 1.0/2.0 mg/kg/day (F/M) of dogs based on clinical signs of neurotoxicity. The NOEL is 0.019/0.025 mg/kg/day (F/M) and LOEL is 0.059/0.078 mg/kg/day of rats based on increased incidence of clinical signs and alterations in clinical chemistry and thyroid parameters.

**Teratogenic effects:** Developmental toxicity NOEL is 4 mg/kg/day (Fipronil).

No teratogenic or fetotoxic effects were observed. Based on these data, it is unlikely that Lambda-cyhalothrin causes teratogenic effects.

**Developmental toxicity:** The reproductive NOEL for parental (systemic) toxicity was 0.25/0.27 mg/kg/day (M/F). LOEL for parental (systemic) toxicity was 2.54/2.74 mg/kg/day (M/F) based on systemic signs including increase in the absolute and relative weights of the thyroid glands and liver in males and females.

**Mutagenic effects:** Several mutagenicity tests were negative for both active ingredients.

**Carcinogenicity:** The study demonstrated that technical Fipronil is not carcinogenic when administered at doses of 30 ppm or greater to CD-1 mice. The evidence regarding the carcinogenicity of

Lambda-cyhalothrin is inconclusive, but suggests that it is probably not carcinogenic.

**Reproductivity:** It is unlikely that lambda-cyhalothrin would cause reproductive effects in humans under normal conditions.

**ADI:** (JMPR) 0.0002 mg/kg b.w. [2000]; group ADI for Fipronil and Fipronil desulfinyl. 0.0005 mg/kg b.w. – Lambda-cyhalothrin.

### 12. ECOLOGICAL INFORMATION

#### Mobility, Degradability & Accumulation (Fipronil):

In plants, animals and the environment, Fipronil is metabolised via reduction to the sulphide, oxidation to the sulfone, and hydrolysis to the amide. In the presence of sunlight, a photodegradate also forms via sulfoxide extrusion. The sulphide, sulfone and photodegradate are known to act at the GABA receptor site, whereas the amide does not. Animals In rats, once absorbed, the distribution and metabolism of Fipronil is rapid. Elimination is mainly via the faeces as Fipronil and its sulfone. The two major urinary metabolites were identified as conjugates of ring-opened pyrazole products. The distribution of radioactive residues in tissues was extensive after seven days. In goats and hens, the sulfone was the only metabolite identified in tissues. Plants When applied as an incorporated soil treatment to cotton, maize, sugar beet or sunflowers, uptake of Fipronil into plants in all cases was low (c. 5%). At crop maturity, the major residue components observed in all plants were Fipronil, the sulfone, and the amide. Following foliar application to cotton, cabbage, rice and potatoes, at crop maturity, fipronil and the photodegradate were the major residue components. Soil/Environment. Results of lab. and field studies: Readily degraded: major degradates in soil (aerobic) are sulfone and amide, (anaerobic) are sulphide and amide. Photolysis of soil-applied Fipronil gives the photodegradate together with sulfone and amide. K<sub>oc</sub> 427 (Speyer 2.2) to 1248 (sandy loam). Both fresh and aged column leaching studies (5 soils) indicate that Fipronil and its metabolites present a low risk of downward movement in soil; this is supported by field dissipation studies. Following soil incorporated in-furrow granular applications; quantifiable residues were confined to the top 30 cm of soil, with no significant lateral movement or residues.

**Lambda-cyhalothrin:** Rats: Compound is rapidly metabolized and excreted via the urine and faeces. The ester bond is hydrolyzed to form polar, water-soluble

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compounds, which are less toxic and more easily eliminated.

**Soil:** Is moderately persistent in the soil. Field half-lives range from 4 to 12 weeks. **Lambda-cyhalothrin** shows a high affinity for soil, reported Koc is 180 000, and not expected to be appreciably mobile in most soils. Little potential for groundwater contamination.

**Water:** **Lambda-cyhalothrin** has extremely low water solubility and is tightly bound to soil; it is therefore not expected to be prevalent in surface waters.

### ECOTOXICOLOGY: (Fipronil)

**Bees:** Highly toxic to honeybees, both by direct contact and by ingestion. However, no risk to bees when used as a soil treatment.

**Birds:** Acute oral LD<sub>50</sub> for bobwhite quail 11.3, mallard ducks >2000, pheasants 31, red-legged partridges 34, house sparrows 1120, pigeons >2000 mg/kg. Dietary LC<sub>50</sub> (5 d) for bobwhite quail 49, mallard ducks >5000 mg/kg diet.

### Fish:

Acute LC<sub>50</sub> (96 h) for bluegill sunfish 85, rainbow trout 248, European carp 430 µg/l.

**Daphnia:** LC<sub>50</sub> (48 h) 0.19 mg/l; for *D. carinata* (48 h) 3.8 mg/l.

**Algae:** EC<sub>50</sub> (96 h) for *Scenedesmus subspicatus* 0.068 mg/l, (120 h) for *Selenastrum capricornutum* >0.16, *Anabaena flos-aquae* >0.17 mg/l.

### Earthworms:

Non-toxic.

### ECOTOXICOLOGY: (Lambda-cyhalothrin)

**Birds: Slightly to practically non-toxic.**

Oral LD<sub>50</sub>: Mallard ducks: > 3950 mg/kg  
LC<sub>50</sub> (diet): Quail: > 5300 mg/kg diet  
No evidence of accumulation in eggs or tissue of birds.

**Fish: Highly toxic.**

LC<sub>50</sub> (96 hours): Rainbow trout: 0.36 µg/l  
Bluegill sunfish: 0.21 µg/l

### Daphnia:

EC<sub>50</sub> (48 hours): *Daphnia magna*: 0.36 µg/l

**Bees: Highly toxic.**

LD<sub>50</sub> (oral): 38 ng/bee  
LC<sub>50</sub> (contact): 909 ng/bee

### Earthworm:

LC<sub>50</sub>: *Eisenia foetida* >1000 mg/kg soil

### Other beneficial organisms:

Toxic to some non-target arthropods. Effects under field conditions are reduced, with rapid recovery.

## 13. DISPOSAL CONSIDERATION

**Pesticide and container disposal:** Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be re-used 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/bottles retain vapour and product residues. Observe all labelled safeguards until container/bottle 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/bottle 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 NUMBER: 2902**

**Road Transport ADR/RID:**

Class: 6.1  
Packaging group: III  
Shipping name: Pesticide Liquid Toxic Liquid, N.O.S  
(Fipronil + Lambda-cyhalothrin  
200 g/l)

**Maritime Transport IMDG/IMO:**

Class: 6.1  
Packaging group: III  
Shipping name: Pesticide Liquid Toxic Liquid, N.O.S  
(Fipronil + Lambda-cyhalothrin  
200 g/l)

## 15. REGULATORY INFORMATION

**Symbol:** Xi, Xn  
**Indication of danger:** Irritating and Harmful substance

**Risk phrase(s):**

**R 20/21/22** Harmful by inhalation, in contact with skin and if swallowed.  
**R 36/37/38** Irritating to eyes, respiratory system and skin.  
**R 43** May cause sensitization by skin contact.  
**R 51** Toxic to aquatic organisms.  
**R 57** Toxic to bees.

**Safety phrases:**

**S 1/2** Keep locked up and out of reach children.

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- S 13** Keep away from food, drink and animal feeding stuffs.
- S 23** Do not breathe vapour/spray.
- S 24/25** Avoid contact with skin and eyes.
- S 36/37/39** Wear suitable protective clothing, gloves and eye/face protection.
- S 61** Avoid release to the environment. Refer to special instructions/safety data sheets.
- S 62** If swallowed, do not induce vomiting: Seek medical advice immediately and show this container or label.

### 16. OTHER INFORMATION

**Packaging:** Packed in 1, 2.5, 5, 7.5, 10, 20, 25, 50, 100, 150, 200, 500 ml and 1, 5, 10, 20 litres plastic containers, labelled according to 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 neither 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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