

Read the label before opening the container.

For full particulars, see enclosed leaflet.

KEEP OUT OF REACH OF CHILDREN AND ANIMALS

STARBUG

South Africa Reg. No: L8008 Act No. 36 of 1947

IRAC INSECTICIDE GROUP CODE: 4A

A systemic suspension concentrate insecticide for the control of aphids, red scale, thrips, leafminers and psylla on citrus trees; aphids on potatoes, cucurbits, cruciferae and roses; woolly aphids on apples, whitefly on tomatoes and mole crickets, harvester termites and lawn caterpillar on lawn/turf.

ACTIVE INGREDIENT:

Imidacloprid (neonicotinoid).....350g/ℓ

Product Information: 072 678 8226
In case of poisoning: 082 446 8946

HAZARD STATEMENTS

- Harmful if swallowed.
- Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

- Wash hands, forearms, and face thoroughly after handling.
- Avoid release to the environment



enviro[™]
bio-chem

Registration holder: Enviro Crop Protection (Pty) Ltd

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Expiry Date:

Batch No:

Date of Manufacture:

UN No. 3082

WARNINGS:

Allow the following interval between the last STARBUG application and harvest:

Apples: Foliar application	70 days	Citrus:	212 days
Broccoli:	76 days	Cucurbits:	100 days
Brussels sprouts:	91 days between planting and harvest	Potatoes:	120 days
Cabbage:	93 days between planting and harvest	Tomatoes:	23 days
Cauliflower:	136 days between planting and harvest		

NOTE: The recommended withholding period between last application and harvest meets local residue requirements but may not meet export residue requirements. If the treated crop is intended for the export market, consult the relevant exporting body regarding pre-harvest interval requirements before the application of this product,

- Harmful if swallowed.
- Very toxic to aquatic life with long lasting effects.
- Store in a cool place away from food and feedstuffs.
- Keep out of reach of children, uninformed persons and animals.
- In case of poisoning call a doctor and make label available to him/her.
- **RE-ENTRY:** Do not enter treated area within 1 day after treatment unless wearing protective clothing.
- **AERIAL APPLICATION:** Notify all inhabitants of the immediate area to be sprayed and issue the necessary warnings. Do not spray over or allow drift to contaminate adjacent areas or water and rivers. Please refer to the SANS Code of Practice for the aerial application of agricultural chemicals.

Although this insecticide has been extensively tested under a large variety of conditions the registration holder does not warrant that it will be efficacious under all conditions because the action and effect thereof may be affected by factors such as abnormal soil, climatic and storage conditions; quality of dilution/application water; compatibility with other substances not indicated on the label and the occurrence of resistance of the pest against the insecticide concerned as well as by the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, the environment or harm to man or animal or for lack of performance of the insecticide concerned due to failure of the user to follow the label instructions or to the occurrence of conditions which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

PRECAUTIONS:

- Wash hands, forearms, and face thoroughly after handling
- Do not eat, drink, or smoke when using this product.
- Avoid release to the environment.
- Collect spillage
- Clean applicator after use, dispose of wash water where it will not contaminate crops, grazing, rivers and dams.
- Triple rinse empty container in the following manner: Invert the empty container over the spray or mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter, rinse the empty container three times with a volume of water equal to a minimum of 10% of that of the container. Add the rinsings to the content of the spray tank.
- Empty containers should be taken for local recycling or waste disposal.
- Do not re-use empty containers.
- Prevent contamination of food, feedstuffs, drinking water and eating utensils.

RELEVANT SUBSTANCES:

Imidacloprid 32%

Ethylene glycol < 5%

Sodium benzoate < 1%

FIRST AID TREATMENT:

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

INGESTION: Immediately call a POISON CENTER/doctor/physician.

SKIN CONTACT: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

EYE CONTACT: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

RESISTANCE WARNING:

For resistance management, **STARBUG** is a **group code 4A** insecticide. Any insect population may contain individuals naturally resistant to **STARBUG** and other **group code 4A** insecticides. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly and consecutively. These resistant insects may not be controlled by **STARBUG** or any other **group code 4A** insecticides.

To delay insecticide resistance:

- Avoid exclusive repeated and consecutive use of insecticides from the same insecticide group code. Alternate with products from different insecticide group codes.
- Do not apply **STARBUG** or any product that belongs to the same chemical group, more than once per year on citrus (bearing, non-bearing and nursery trees).
- Integrate other control methods (chemical, cultural, biological) into insect control programs.

For specific information on resistance management contact the registration holder of this product.

DIRECTIONS FOR USE: Use only as directed

Compatibility:

STARBUG is compatible with Atador (Reg. No. L7167; Registration holder: Erintrade cc t/a RT Chemicals, fenamiphos 400 EC) when applied on potatoes.

Mixing instructions:

- Pour the required quantity of **STARBUG** into the spray water and agitate continuously.
- Do not allow the **STARBUG** mixture to stand any length of time before using.
- Do not use brack or hard water.

Aerial application:

Aerial application may only be done by a registered aerial application operator using a correctly calibrated, registered aircraft according to the instructions of SANS Code 0118 (Aerial Application of Agricultural Remedies). It is important to ensure that the spray mixture is distributed evenly over the target area and that the loss of spray material during application is restricted to a minimum. It is therefore essential that the following criteria are met:

- **Volume:** A minimum volume of 30ℓ spray mixture per hectare is recommended. As this product has not been evaluated at a reduced volume rate, the registration holder cannot guarantee efficacy, or be held responsible for any adverse effects if this product is applied aerially at a lower volume rate than recommended above.
- A **droplet coverage** of 30 - 40 droplets per cm² must be recovered on the target.
- A **droplet spectrum** with a VMD of 250 - 280 microns is recommended. Ensure that the production of fine droplets (less than 150 microns) is restricted to a minimum.
- The height of the spray boom should be maintained at 3 to 4m above the target. Do not spray when aircraft is in a climb, at the top or during a dive, or when banking.
- Use suitable **atomising equipment** (hydraulic nozzles or rotary atomisers) that will produce the desired droplet size and coverage, but which will ensure the minimum loss of product through drift. The operator must use a setup that will produce a

droplet spectrum with the lowest possible relative span.

- All nozzles/atomisers should be positioned within the inner 60 to 75% of the wingspan to prevent droplets from entering the wingtip vortices.
- The difference between the wet and dry bulb temperature readings as determined by a whirling hygrometer, must not exceed 8°C.
- Do not spray if the wind speed exceeds 15km/h.
- Do not spray under turbulent, unstable conditions during the heat of the day when rising thermals and downdraughts occur.
- Spraying under temperature inversion conditions (spraying in or above the inversion layer) and/or high humidity conditions (relative humidity 80% and above) may lead to the following:
 - reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage).
 - damage to other sensitive crops and/or non-target areas through drifting of the suspended spray cloud away from the target field.
- Ensure that fields are accurately marked and that the aerial spray operator knows exactly which fields to spray.
- Obtain an assurance from the aerial spray operator that the above requirements will be met and that a logbook record of the application will be made.

CROP / PEST	DOSAGE RATE	REMARKS
CITRUS Bearing Trees not older than 15 years (excluding Kumquat) Aphid (<i>Toxoptera Citricidus</i>), Red scale (<i>Aonidiella</i> <i>Aurantii</i>) & Psylla (<i>Trioza Erythraeae</i>)	<u>Soil drench:</u> 9mℓ/tree	Apply during August/September at green tip to white bud growth stage of the trees. Dilute the required volume in 1ℓ water and apply around the base of the trunk with a jug. Irrigate within 24 hours after application. When used on lemon trees, apply only after removal of all fruit (including immature fruit). In lemons control can only be expected on the first fruit set after application.
Aphid (<i>Toxoptera Citricidus</i>)	6mℓ/tree	Apply during August/September in 1ℓ water and apply around the base of the trunk with a jug. Irrigate within 24 hours after application.
Non-bearing Trees Aphid (<i>Toxoptera Citricidus</i>)	<u>Soil drench:</u> 6mℓ/tree	
Leaf miner (<i>Phyllocnistis Citrella</i>)	8mℓ/tree	
Nursery Trees Aphid (<i>Toxoptera Citricidus</i>) & Leaf Miner (<i>Phyllocnistis Citrella</i>)	<u>Soil drench:</u> 1.5mℓ/seedling	Apply in 200mℓ water 2 days after transplanting of the grafted root stock seedlings into plastic bags. Ensure that the STARBUG application does not take place prior to grafting.
Thrip (<i>Scirtothrips Aurantii</i>)	3.0mℓ/seedling	

NOTES:

- Trees should be healthy, stress free and regularly irrigated before and after application.
- Do not apply the soil drench treatment through the irrigation system.
- Do not apply to trees immediately after pruning.

CROP / PEST	DOSAGE RATE	REMARKS
CUCURBITS Aphids (<i>Vrious Species</i>)	<u>Ground application:</u> 200mℓ/100ℓ water	Apply 30mℓ of the mixture per planting hole during planting or immediately after planting. Additional sprays for aphid control may be necessary later in the season should aphids appear.
CRUCIFERAE Cabbage Aphid (<i>Brevicoryne Brassicae</i>)	<u>Ground application:</u> 380mℓ/100ℓ water	Apply 600mℓ of the STARBUG suspension per polystyrene seedling tray as a drench over the plants not more than 24 hours prior to transplanting.

- NOTES:**
- The above application rates are recommended per polystyrene seedling tray containing 200 seedlings. The seedling trays referred to are those with a standard outside dimension of 673 x 342mm.
 - Application rates can be proportionally reduced for seedling trays containing less than 200 seedlings.
 - The mixture should be stirred thoroughly before and during application to ensure an even application.

CROP / PEST	DOSAGE RATE	REMARKS
APPLES Woolly Aphid (<i>Eriosoma Lanigerum</i>)	<u>Soil application:</u> <u>Trees up to 6 years old:</u> 1mℓ/tree	Apply in September or within 3 weeks after flowering.
	<u>Trees 7 to 15 years old::</u> 3mℓ/trees	Apply within 3 weeks after flowering. Apply the STARBUG in 1ℓ water to the soil directly around the base of the tree trunk. The application area should be free of weeds, organic matter and mulch. Irrigate within 24 hours after application. Will also suppress woolly aphid on the roots.
	<u>Foliar spray:</u> 60mℓ/100ℓ water (1.5 - 2.1ℓ/ha in 2 500 - 3 500ℓ water/ha)	Apply STARBUG as a full cover high volume foliar spray during approximately mid-December. STARBUG may be applied as a foliar spray to Top Red, Granny Smith, Royal Gala and Golden Delicious apples.

- Notes:**
- Do not apply to trees older than 15 years.
 - Trees should be healthy, stress free and regularly irrigated before and after application. Any factor that will stress the tree will adversely affect the uptake and distribution of the active ingredient in the tree.
 - Do not apply the soil drench treatment through the irrigation system.

CROP / PEST	DOSAGE RATE	REMARKS
POTATOES Aphid (<i>Myzus Persicae</i>)	<u>Ground application:</u> 4.5mℓ/100m row length	Spray the STARBUG mixture to the soil surface in the planting furrow from ridge-tip to ridge-tip <u>before</u> planting of the tubers. Use an 8006 or 8008 flat fan nozzle and apply in 3 to 4ℓ water per 100m furrow length. The application may also be made after planting but before emergence over the row. Irrigate immediately afterwards with ±15mm water. STARBUG may also be used in a tank mixture with Atador for the control of aphids and nematodes.
	3.0mℓ/100m row length	When STARBUG is mixed with Atador , the STARBUG dosage can be reduced to 3,0mℓ per 100m row length. Warning: Do not apply STARBUG mixtures directly to the tubers. Apply in the open furrow before planting of the tubers.
TOMATOES Whitefly Nymph (<i>Trialeurodes Vaporariorum</i>) For use on tomatoes in enclosed areas only, e.g. glass houses, tunnels, etc.	<u>Soil drench:</u> 0.05mℓ/plant	Apply as a soil drench, 1 day after transplanting. Mix 10mℓ STARBUG with 20ℓ water and apply 100mℓ of this mixture to the soil around the base of the stem of each plant. Irrigate within 24 hours after application. Repeat application 28 days later.
ROSES Aphids (<i>Macrosiphum Rosae</i> and <i>Metopolophium Porosum</i>)	<u>Soil drench:</u> 0.5mℓ/plant (for 4 - 6 weeks control)	Apply as a soil drench in spring or at the first signs of infestation. Mix 5mℓ STARBUG with 10ℓ water and apply 1ℓ of this mixture on the soil around the base of the stem of each plant. Irrigate within 24 hours after application.
	1.0mℓ/plant (or season long control)	Apply as soil drench in spring. Mix 10mℓ STARBUG with 10 litres of water and apply 1 litre of this mixture to the soil around the base of the stem of each plant. Irrigate within 24 hours after application. Follow-up applications may be required depending on the amount of rainfall or irrigation and soil type.
TURF / LAWNS Mole Crickets (<i>Gryllotalpa Africana</i>)	500mℓ/ha	Apply at 600 - 1 000ℓ water/ha. Apply as overall application at 1 st signs of infestation. Irrigate within 24 hours. Repeat if neccessary. Mole crickets should not be >15mm.
Northern Harvester Termites (<i>Hodotermes Mossambicus</i>)		Apply as overall application at 1 st signs of infestation, where active nests are noticed. Repeat after 3 weeks or when re-infestation is noticed.
Lawn Caterpillar (<i>Spodoptera Cilium</i>)		Apply as full cover application. Irrigate within 24 hours after application.