

BEFORE USING THIS PRODUCT READ THE LABEL CAREFULLY!

Insecticide



HARRIER 500 EC

Reg. No. L 10373 Act/Wet No. 36 of/van 1947
N-AR 1904

2: 13/9/2018 – Oct2018

An emulsifiable concentrate stomach and contact insecticide for the control of pests mentioned on the crops listed.

'n Emulgeerbare konsentraat maag- en kontakinselmiddel vir die beheer van die plaë vermeld op gewasse soos aangedui.

ACTIVE INGREDIENT / AKTIEWE BESTANDDEEL

mercaptiothion (organophosphate) **500 g/l** merkaptotion (organofosfaat)

IRAC INSECTICIDE GROUP CODE **1B** IRAC INSEKDODER GROEPKODE



villa

Registration holder / Registrasiehouer:

Villa Crop Protection (Pty) Ltd.

Co. Reg. No. / Mpy. Reg. Nr. 1992/002474/07

PO Box / Posbus 10413, Aston Manor, 1630

Tel: 011 396 2233

Website / Webblad: www.villacrop.co.za

UN Number: 3017

Willow Set & Print 011 394-4486



CAUTION
VERSIGTIG

GERUUKSAANWYSINGS INGESLUIT

VERWYS NA BESONDERHEDE
GEDRUK OP HOUER/SAK

Date formulated:

Formuleringsdatum:

DIRECTIONS FOR USE ENCLOSED

REFER TO DETAILS PRINTED
ON CONTAINER/BAG

Batch number:

Lotnummer:

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ACTIVE INGREDIENT/ AKTIEWE BESTANDDEEL:

mercaptotion (organophosphate) / merkaptotien (organofosfaat)..... 500 g/l

Registration holder / Registrasiehouer:

VILLA CROP PROTECTION (PTY) LTD.

Co. Reg. No. 1992/002474/07 Mpy. Reg. Nr.

PO Box / Posbus 10413,

ASTON MANOR, 1630, Tel. (011) 396 2233

CAUTION / VERSIGTIG**WARNINGS:****Withholding periods:**

Minimum time between last application and harvest:	
Peppers	3 days
Citrus	7 days
<u>Tree/Orchard crops:</u> Apples, Apricots, Bananas, Figs, Guavas, Kiwi fruit, Litchis, Mangoes, Olives, Papayas, Pears, Peaches, Nectarines, Plums, Prunes, Quinces & Table grapes	10 days
<u>Berries:</u> Blackberries, Blackcurrants, Blueberries, Boysenberries, Gooseberries, Raspberries, Youngberries	
Cherries	
Pineapples	
Strawberries	
Cactus / Prickly pears	
Cucurbits	

NOTE

ABOVE-MENTIONED WITHHOLDING PERIODS REFER TO COMPLIANCE WITH LOCAL MAXIMUM RESIDUE LIMITS (MRL'S). HOWEVER, IT IS IMPORTANT TO NOTE THAT IMPORT TOLERANCES OF OTHER COUNTRIES MIGHT POSSIBLY BE EXCEEDED. IF THE TREATED CROP WILL BE EXPORTED, FIRST CONSULT THE RELEVANT IMPORTER OR EXPORTING BODY REGARDING THE USE OF THIS PRODUCT, MRL'S AND RECOMMENDED WITHHOLDING PERIODS.

- Handle with care.
- Poisonous when absorbed through the skin or swallowed or inhaled.
- Toxic to fish, bees and wild life.
- **Flammable** - keep away from heat and open flames.
- Store in a cool, dry place under lock and key, away from food, feeds, seed, fertilizers and other agricultural remedies.
- Keep out of reach of children, animals and uninformed persons.
- Re-entry: Do not enter treated area until spray deposit has dried unless wearing protective clothing.
- **In case of poisoning call a doctor and make this label available to him/her.**

Although this remedy 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 water, compatibility with other substances not indicated on the label and the occurrence of resistance of the pest to the remedy concerned, as well as by the method, time and accuracy of application. The registration holder further does not accept responsibility for damage to crops, vegetation, the environment or harm to man or animal or for lack of performance of the remedy 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 event of any uncertainty.

PRECAUTIONS

- Do not inhale fumes or spray mist.
- Wear full protective clothing, a suitable respirator, rubber gloves and boots when handling the product, preparing the spray mixture and during application.
- Wash contaminated clothing after use.
- Wash with soap and water after use or accidental skin contact.
- Do not eat, drink or smoke whilst mixing, applying the product or before washing hands and face or change of clothing.
- Prevent drift of spray mist onto other crops, grazing, rivers, dams and areas not under treatment or to nearby water sources.
- Thoroughly clean the spraying equipment directly after use and dispose of wash water where it will not contaminate food, grazing, boreholes, rivers or dams.
- **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 third of that of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner.
- Destroy the empty container by perforation and flattening and dispose of it in a safe way.
- Never **re-use the empty container for any other purpose**.
- Prevent contamination of food, feeds, drinking water and eating utensils.

RESISTANCE WARNING

HARRIER 500 EC is a group code 1B insecticide. Any insect population may contain individuals naturally resistant to **HARRIER 500 EC** and other group code 1B insecticide. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by **HARRIER 500 EC** or any other group code 1B insecticide.

To delay insecticide resistance:

- avoid exclusive repeated use of insecticides from the same insecticide group code. Alternate or tank mix with products from different insecticide group codes,
- integrate other control methods (chemical, cultural, biological) into insect control programmes.

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

DIRECTIONS FOR USE: Use only as directed.

Compatibility:

HARRIER 500 EC is generally compatible with all insecticides and fungicides and **HYM-LURE RFU** (L 5354). When mixed with alkaline products (e.g. Lime sulphur and Bordeaux mixture), the initial kills are satisfactory, but the residual toxicity may be reduced.

Mixing instructions:

- The efficacy of **HARRIER 500 EC** may be reduced by very hard water and by water with a high pH value.
- The pH value of the mixing water should be between pH 4.5 and 5.5 to ensure optimal efficacy when **HARRIER 500 EC** is used.
- Add an appropriate **Villa approved buffer + surfactant adjuvant**, to adjust water pH between pH 4.5 and 5.5 - before adding **HARRIER 500 EC**.
- First mix the required quantity of the product with some buffered water in a bucket or in the spray tank.
- Maintain agitation during mixing and application.

Application of Fruit fly bait:

Fruit fly baits should be applied as **scattered coarse droplets (1000 to 3000 micron)** and **NOT** as full cover applications, or by equipment that provides a cover effect on the plants or fruit. Aim the application to the inside of tree canopies and underside of the leaves. In order to achieve this, consider the following as guidelines:

- Use a thin solid stream application, which is obtained when using a "Teejet" D2 or D3 orifice plate without the whirl plate at 1.5 to 3 Bar pressures.
- Aim the solid stream(s) upwards into the tree canopy so that the thin solid stream(s) will break up in desired scattered droplets when striking the foliage, fruit or branches inside the tree canopy, and to obtain minimum bait residues on the outside of the tree canopy or fruit. It is important that the **solid stream should not be too thick** (e.g. using orifices that are too big).
- The number of nozzles used depends on the calibration requirement for the specific crop, equipment, ground speed, etc.

- DO NOT ADD ANY OTHER PRODUCT(S) TO BAIT MIXTURES.

APPLICATION RATES

Crop / Pest	Dosage Rate	Remarks
Apples and Pears Aphids Bryobia mite Mealy bugs	125 ml / 100 l water (12.5 ml / 10 l water)	Apply as a full cover spray when pests are noticed. Repeat if necessary. DO NOT apply more than three (3) sprays per season.
Bananas Aphids	125 ml / 100 l water	Apply as a full cover spray when pests are noticed. Will also suppress Thrips.
Thrips	175 ml / 100 l water	Apply as a full cover spray when pests are noticed. Will also control Aphids.
Guavas Scale	250 ml / 100 l water	Apply as a full cover spray when pests are noticed.
Berries (including) Blackberries Blackcurrants Blueberries Boysenberries Gooseberries Raspberries Youngberries Fruit flies	175 ml PLUS 8kg sugar OR 400 to 500 ml Protein hydrolysate	<u>Fruit fly bait:</u> Apply 200 to 300 litres bait mixture per hectare at weekly intervals to foliage as a coarse droplet spray when fruit becomes susceptible to attack. Treat every row or tree on at least one side. Apply in winter to evergreen trees on warm sunny days to reduce overwintering population. Repeat after rain and with weekly intervals.
Cactus / Prickly pears Fruit flies	<u>House gardens:</u> 9 ml PLUS	<u>House gardens:</u> NOTE Fruit fly bait sprays are not full cover applications. Apply 20 ml of the bait mixture per 1 m ² as a coarse droplet application to the under sides of the leaves on the sunny side of the tree. Apply at weekly intervals.
Cherries Fruit flies	0.4 kg sugar in 10 l water	
Peppers Aphids	125 ml / 100 l water (12.5 ml / 10 l water)	Apply as a full cover spray.
Thrips	175 ml / 100 l water (17.5 ml / 10 l water)	Apply as a full cover spray.
Ornamentals, Flowers and Roses Aphids, Australian bug and Mealy bug Thrips	125 ml / 100 l water (12.5 ml / 10 l water) 175 ml / 100 l water (17.5 ml / 10 l water)	Ensure thorough coverage of the plant / pest. Apply at weekly intervals or when damage/pest is noticed. Ensure “underleaf” coverage with the spray droplets when targeting Red spider mites.
CMR beetles, Soft brown scale, Red scale, red spider mite, lawn caterpillars	250 ml / 100 l water (25 ml / 10 l water)	
Aloes Scale, Small stinkbug	250 ml / 100 l water (25 ml / 10 l water)	Apply when pests are noticed. Repeat if necessary.

Crop / Pest	Dosage Rate	Remarks
<u>Peaches, Nectarines</u> <u>Plums & Apricots</u> Aphids Bryobia mite	125 ml / 100 l water (12.5 ml / 10 l water)	Apply as a full cover spray when pests are noticed. Repeat if necessary.
Mealy bugs		Apply as a full cover spray when pests are noticed. Repeat 2 to 3 times at 2 to 3-week intervals.
<u>Citrus</u> Mealy bugs	125 ml / 100 l water (12.5 ml / 10 l water)	Spray young trees once and mature trees twice. Spraying should be done between August and December.
Thrips	175 ml / 100 l water (17.5 ml / 10 l water)	Use for light infestation.
Fruit fly	175 ml / 100 l PLUS 400 ml / 100 l Hym-Lure Ready For Use <u>House gardens:</u> 18 ml PLUS 0.4 kg sugar in 10 l water	<u>Fruit fly bait:</u> Start spray programme before fruit colour break (4 to 8 weeks before harvest). Apply the bait once per week. Apply four (4) applications 7 days apart. The volume of the spray bait per tree will vary according to tree size / age and can be in the range of 100 to 800 ml per tree. <u>House gardens:</u> NOTE Fruit fly bait sprays are not full cover applications. Apply 100 ml of the bait mixture per tree as a coarse droplet application to the under sides of the leaves on the sunny side of the tree. Apply at weekly intervals.
Mussel scale	300 ml / 100 l water (30 ml / 10 l water)	<u>Preventative spray:</u> Apply at 80 to 100 % petal drop.
Soft brown scale	300 ml / 100 l water (30 ml / 10 l water)	<u>Corrective treatment:</u> Spray when pests are noticed. If possible, apply on a spot spray basis.
<u>Pineapples</u> Mealy bug	250 ml / 100 l water	Apply when pests are noticed and repeat if necessary. Apply in at least 2000 litres spray mixture per hectare. Plant material should be dipped for two (2) minutes before planting.
Fruit flies	175 ml PLUS 8 kg sugar OR 400 to 500 ml Protein hydrolysate	<u>Fruit fly bait:</u> Apply 200 litres bait mixtures per hectare at weekly intervals to foliage as a coarse droplet spray when fruit becomes susceptible at attack. Treat every row on at least one side. Apply in winter to evergreen trees on warm sunny days to reduce overwintering population. Repeat after rain and with weekly intervals.
<u>Quinces</u> Slug	125 ml / 100 l water (12.5 ml / 10 l water)	Apply as a full cover spray when pests are noticed. For home garden use only.

Crop / Pest	Dosage Rate	Remarks
<u>Strawberries</u> Fruit flies	175 mℓ PLUS 8 kg sugar OR 400 to 500 mℓ Protein hydrolysate <u>House gardens:</u> 9 mℓ PLUS 0.4 kg sugar in 10 ℓ water	<u>Fruit fly bait:</u> Apply 200 litres bait mixture per hectare at weekly intervals to foliage as a coarse droplet spray when fruit becomes susceptible to attack. Treat every row or tree on at least one side. Apply in winter to evergreen trees on warm sunny days to reduce overwintering population. Repeat after rain and with weekly intervals. <u>House gardens:</u> NOTE Fruit fly bait sprays are not full cover applications. Apply 20 mℓ of the bait mixture per 1 m ² as a coarse droplet application. Apply at weekly intervals.
<u>Cucurbits</u> Pumpkin flies	175 mℓ PLUS 8 kg sugar <u>House gardens:</u> 9 mℓ PLUS 0.4 kg sugar in 10 ℓ water	<u>Fruit fly bait:</u> Apply at 35 to 40 litres per hectare as a coarse droplet spray. For small plots, repeat application twice a week. For large plots repeat application weekly and after rain. Commence control measures when first flowers appear, and continue until fruit matures. <u>House gardens:</u> NOTE Fruit fly bait sprays are not full cover applications. Apply 40 mℓ bait mixture over 10 m ² as a coarse droplet spray.
<u>Lawns and Gardens</u> <i>Astylus</i> beetle	12.5 mℓ / 10 ℓ water	Apply a full cover spray to infested plants.
Ants	40 mℓ / 1 ℓ water	Spray soil around infested areas and on paving where ants are present. Treat the nest entrance holes as well.
Army worm, Lesser army worm & Lawn caterpillars, Short-horn grasshoppers & crickets	25 mℓ / 10 ℓ water	Apply when infestations are noticed. Repeat as necessary.

Crop / Pest	Dosage Rate	Remarks
<p><u>Tree / Orchard crops</u> (Including) Apples Pears Peaches Plums Prunes Apricots Figs Kiwi fruit Litchi's Mangoes Olives Papayas Grapes (Table grapes ONLY)</p> <p>Fruit flies</p>	<p>175 mℓ PLUS 8 kg sugar</p> <p>OR</p> <p>400 to 500 mℓ Protein hydrolysate</p> <p><u>House gardens:</u> 9 mℓ PLUS 0.4 kg sugar in 10 ℓ water</p> <hr/> <p><u>Concentrated Fruit fly bait:</u></p> <p>500 mℓ PLUS 2000 mℓ Protein hydrolysate</p>	<p><u>Fruit fly bait:</u> Apply 200 to 300 litres bait mixture per hectare at weekly intervals to foliage as a coarse droplet spray when fruit becomes susceptible to attack. Treat every row or tree on at least one side. Apply in winter to evergreen trees on warm sunny days to reduce overwintering population. Do not treat directly onto bunches of table grapes as the bait could possible cause unsightly marks on the grapes.</p> <p><u>House gardens:</u> NOTE Fruit fly bait sprays are not full cover applications. Apply 100 mℓ of the bait mixture per tree as a coarse droplet application to the under sides of the leaves on the sunny side of the tree. Apply at weekly intervals.</p> <hr/> <p>Apply the concentrated bait as coarse droplets of approximately 1000 to 3000 microns in 40 to 50 litres bait mixtures per hectare. Use only specially adapted and calibrated equipment.</p> <p>Treat every row or tree by applying the bait on at least one side of each tree or row. <u>Summer:</u> Treat susceptible orchards and bordering plants and ornamentals weekly. Repeat immediately after rain. <u>Winter:</u> Treat evergreen plants and ornamentals on warm sunny days to reduce the overwintering population. Repeat after rain.</p> <p><u>Fruit fly bait:</u> To ensure optimum Fruit fly attraction, the above rates and application volumes are based on a minimum of 800 to 1000 mℓ protein-based product per hectare and should be maintained as far as possible.</p>
<p><u>Backyard host trees</u> <u>(Hex River Valley ONLY)</u> Fruit flies</p>	<p>2 ℓ PLUS 10ℓ protein hydrolysate</p>	<p><u>Fruit fly bait:</u> Apply at a rate of 15 litres mixture per hectare. Apply 50 to 100 mℓ per tree as a coarse droplet application to approximately 1 m² of the sunny side of the tree, preferably to the under sides of the foliage. Apply weekly.</p>

HYM-LURE RFU is a registered product of / is 'n geregistreerde produk van
PIONEER FOODS (PTY) LTD. t/a BOKOMO FOODS GROCERIES