

BEFORE USING THIS PRODUCT, READ THE LABEL CAREFULLY. KEEP OUT OF REACH OF CHILDREN AND ANIMALS.

Insecticide



**MOCAP® 150 GR**

Reg. No. L 6985 Act No. 36 of 1947  
N-AR 0776 / W1301414

4: 25/1/2023 – March 2023

A granular contact nematocide for the control of nematodes in citrus, potatoes, tobacco and certain vegetables as indicated.

### ACTIVE INGREDIENT

ethoprophos (organophosphate) 150 g/kg

GROUP

1B

INSECTICIDE



#### Hazard Statements:

Toxic if swallowed.  
May be harmful in contact with skin.  
May cause an allergic skin reaction.  
Very toxic to aquatic life with long lasting effects.

#### Precautionary Statements:

Avoid release to the environment.  
IF SWALLOWED: Immediately call a POISON CENTER.  
IF ON SKIN: Wash with plenty of water and non-abrasive soap.

**DANGER**

kg



UN Number: 2783

Registration holder: VILLA CROP PROTECTION (PTY) LTD.  
Co. Reg. No. 1992/002474/07  
PO Box 10413, Aston Manor, 1630  
Tel. (011) 396 2233  
Website: [www.villacrop.co.za](http://www.villacrop.co.za)

#### 24 HR EMERGENCY NUMBERS:

Griffon Poison Centre: +27 82 446 8946  
24 HR Transport / Spill Emergency no: (Hazcall24) +27 86 044 4411  
(Client: Villa Crop Protection)

DIRECTIONS FOR USE ENCLOSED

Batch Number:  
Date of Manufacture:

REFER TO DETAILS AS PRINTED ON CONTAINER / BAG

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IRAC INSECTICIDE GROUP CODE: 1B

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**WARNINGS****Withholding periods:**

| Minimum number of days between the last application and harvest: |          |
|--|----------|
| Potatoes   | 70 days  |
| Lettuce, Spinach   | 74 days  |
| Onions   | 80 days  |
| Green beans  | 88 days  |
| Baby marrows, Butternuts, Patti pans, Peas                       | 105 days |
| Cabbages   | 106 days |

**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.

**Hazard statements:**

|   |
|---|
| Toxic if swallowed.                                   |
| May be harmful in contact with skin.                  |
| May cause an allergic skin reaction.                  |
| Very toxic to aquatic life with long lasting effects. |

- Handle with care.
- Toxic to birds and wildlife.
- Keep out of reach of children, animals and uninformed persons.
- Store under lock and key in a cool place away from food and feeds.
- Re-entry: Do not enter treated area within 1 day after treatment unless wearing protective clothing.
- **In case of poisoning, call a doctor and make this label available to him/her.**

Although MOCAP® 150 GR is regarded as crop-safe on most important cultivars, this does not indicate that a more sensitive cultivar might not be commercialized in the future. Where a new cultivar is encountered, prior testing of MOCAP 150 GR should be done on that cultivar before large areas are treated commercially.

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. 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 products not indicated on the label, the occurrence of resistance of the pest against the remedy 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 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 the event of any uncertainty.

**PRECAUTIONS****Precautionary statements:**

|   |
|---|
| Wash hands and face thoroughly after handling.  |
| Do not eat, drink or smoke when using this product.                                       |
| Contaminated work clothing should not be allowed out of the workplace.                    |
| Avoid release to the environment.   |
| Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles. |
| IF SWALLOWED: Immediately call a POISON CENTER.   |
| IF ON SKIN: Wash with plenty of water and non-abrasive soap.                              |
| Rinse mouth.  |
| If skin irritation occurs: Get medical help.  |
| Collect spillage.   |
| Store locked up.  |
| Dispose of content/container to suitable landfill in accordance with local regulations.   |

- Do not inhale the dust.
- Avoid contact with the skin.
- Wash contaminated clothing daily.
- Prevent contamination of food, eating utensils, feeds and drinking water.
- Prevent contamination of other crops, grazing, rivers, dams or other areas not under treatment.
- Prevent run-off from treated areas, it may be harmful to aquatic organisms in adjacent areas.
- Keep all livestock out of treated areas for at least four (4) weeks.
- **Ensure thorough incorporation of MOCAP® 150 GR granules into the soil to minimize risk to birds and other animals.**
- Cultivate headlands to cover exposed granules.
- Empty application hopper completely after each day's use. Return all bags to a secure pesticide storeroom.
- Ensure hoppers are dry before filling. Shake out the bags thoroughly into the application hopper.
- **CLEAN THE EMPTY PLASTIC BAG AS FOLLOWS:** Turn the bag inside out. Hold the bag over the spray or mixing tank and rinse the bag with running water for thirty seconds. Shake the rinsate off into the tank. Repeat the rinsing twice. Cut the bag into pieces and dispose of via an approved collector or recycler ([www.croplife.co.za](http://www.croplife.co.za)). Do not bury, burn or donate the bag to any other parties that may use it as container for foodstuffs.
- **CLEAN THE EMPTY PAPER BAG OR CARBOARD CONTAINER AS FOLLOWS:** Shake all the pesticide formulation out of the bag or box into the spray or mixing tank or if it is directly dispensed onto treatment areas, over the area. Turn the bag or box inside out. Hold the bag or box over the spray or mixing tank or treatment area and rinse the bag or box with running water for thirty seconds. Shake the rinsate off into the tank. Repeat the rinsing twice. Cut the bag or box into pieces and dispose of via normal refuse disposal. Do not bury, burn or donate the bag or box to any other parties that may use it as container for food stuffs.

| <b>Relevant hazardous components</b> |          |
|--------------------------------------|----------|
| <b>Ethoprophos</b>                   | 150 g/kg |

**SYMPTOMS OF HUMAN POISONING**

The product may cause mild to moderate irritation, tearing, nausea, vomiting, diarrhoea, headache, breathing difficulty and death. Ingestion may resemble alcohol intoxication, progressing to central nervous system depression, vomiting, headache, rapid respiratory and heart rate, lowered blood pressure, stupor, collapse and unconsciousness with convulsions.

**FIRST AID TREATMENT****ALWAYS OBTAIN TREATMENT BY A DOCTOR IMMEDIATELY.**

- **Inhalation:** Remove person from contaminated area to fresh air and assist breathing as needed. If the patient is not breathing, commence with artificial respiration and provide oxygen or closed chest cardiac massage. Seek medical attention if person is not feeling well.
- **Skin contact:** Remove contaminated clothing immediately and rinse contaminated body area thoroughly with plenty cold water and non- scrubbing soap. Do not rub the skin. Emergency personnel should wear gloves and avoid contamination. Seek medical attention if skin irritation occurs.

- **Eye contact:** Flush contamination out of eyes with clean lukewarm, gently flowing water for at least 15 minutes, while holding eyelids(s) open. Lift eyelids to facilitate irrigation. If present, remove contact lenses and continue rinsing.
- **Ingestion:** Immediately induce vomiting as directed by medical personnel. If swallowed, drink 2 to 3 glasses of water and induce vomiting by tickling the back part of the throat. However, **do not** induce vomiting or give anything by mouth to an **unconscious person**. Vomiting may occur spontaneously. To prevent aspiration, position patient on his side with his head in a lower position than his waist. If vomiting while patient is conscious, give water to further dilute the chemical. Persons attending to the victim must avoid direct contact with heavily contaminated clothing and vomitus. **Immediately take the patient to the nearest doctor or hospital, whichever is faster.**

#### **NOTE TO PHYSICIAN**

**MOCAP® 150 GR** is a cholinesterase inhibitor. Support respiration, measures should include the removal of secretions, maintenance of the patient's airway and if necessary, artificial ventilation. If cyanosis is absent, administer 2 to 4 mg atropine sulphate intravenously (0.05 mg/kg for children). Repeat atropine sulphate at 5 to 10-minute intervals until patient is fully atropinized (dry flushed skin, tachycardia, papillary dilation) and maintain for at least 48 hours. If cyanotic, give initial atropine sulphate dose intramuscularly and start measures to improve ventilation.

Administer reactivator, e.g., PROTOPAM, Ayerst (2-PAM) up to a total dose of 1 to 2 grams 2-PAM (20 to 40 mg/kg for children) in 100 cc saline over 15 to 30 minutes. A second dose may be given after one hour if muscle weakness persists. May be given by intramuscular or subcutaneous routes if intravenous administration is not feasible. In case of skin contact, wash the patient with soap and water followed by a wash with 95 % ethyl alcohol. Keep the patient under constant observation for 24 to 36 hours. Symptoms may persist for one month.

Theophylline, morphine, barbiturates, phenothiazines, reserpine and succinyl choline are contra-indicated.

#### **RESISTANCE WARNING**

**MOCAP® 150 GR** is a group code 1B insecticide. Any insect population may contain individuals naturally resistant to **MOCAP® 150 GR** and other group code 1B insecticides. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by **MOCAP® 150 GR** 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.

#### **Mode of Action:**

**MOCAP® 150 GR** acts by inhibition of acetylcholinesterase (AChE) by covalent (irreversible) reaction with the enzyme at the acetylcholine binding site, blocking hydrolysis of acetylcholine and resulting in hyperexcitation.

#### **PRODUCT INFORMATION**

- **MOCAP® 150 GR** is a contact action nematicide.
- It is important to incorporate and mix the granules thoroughly with the soil to a depth of 15 to 25 cm using suitable equipment e.g., a tandem disc (at a speed of 8 km per hour) or a rotovator. Inadequate depth of incorporation will reduce pesticidal activity and may result in infestations on the lower roots and tubers.
- Sufficient levels of soil moisture during and after application are essential in order to activate the product and enhance distribution through the target area. The soil must be moist when **MOCAP® 150 GR** is applied and incorporated. Rainfall or irrigation (20 mm) after incorporation will also assist with even distribution of the product. However, excessive rainfall/irrigation may result in the active ingredient leaching too quickly through the root zone resulting in Nematode damage.

#### **USE RESTRICTIONS**

##### **General use restrictions on all crops:**

- Nematode infestation pressure is strongly influenced by various factors, especially soil type and the susceptibility of previous crops. The high rate is recommended for use in situations where a previous

crop has been damaged by Nematodes and in high-risk situations, e.g., irrigated crops on light sandy soils. Irrespective of treatment rate, severe losses may still occur.

- **MOCAP® 150 GR** has been proven to provide effective control, however, its performance and persistence is strongly influenced by factors which the registration holder has no control over. Substantial Nematode damage may result under the following conditions: monocropping or rotation with Nematode susceptible crops, high Nematode infestations, soil type (e.g., very sandy soils or soils with high organic matter content), too little or excessive irrigation or rainfall, use of infested seed, etc. Irrespective of treatment rate, severe losses may still occur. For further information, consult your representative.
- **Do not** apply **MOCAP® 150 GR** in soils with a pH of 9 or above, or where irrigation water has a pH of 9 or above.
- Only apply **MOCAP® 150 GR** to soils that are free from trash, in good tilth, and weeds.
- **Do not** apply to soils that are difficult to cultivate.
- The effectiveness of **MOCAP® 150 GR** on *Globodera rostochensis* and *Meloidogyne chitwoodi* is not known. It is thus not recommended for the control of these Nematode species.

## **POTATOES**

(Also refer to notes above “General use restrictions on all crops”)

- **Do not** use **MOCAP® 150 GR** on seed or chipping potatoes when any of the factors mentioned in first and second restrictions listed under “**General use restrictions on all crops**” above are suspected.
- Storing potatoes in the ground may result in a late Nematode infestation. Lift potatoes as early as possible after the full crop potential has been reached.

## **VEGETABLES**

(Also refer to notes above “General use restrictions on all crops”).

- **NOTES**  
**Do not use MOCAP® 150 GR on vegetables grown in glasshouses or tunnels.**  
Refer to the minimum withholding periods between application and harvest under “**WARNINGS**”.
- It is not possible for the registration holder to confirm the safety of **MOCAP® 150 GR** on all vegetable cultivars, especially newly released cultivars. **MOCAP® 150 GR**, when used as recommended, should be safe on the cultivars listed below. Take note whether seed or transplants are used.
  - Baby marrows (Caserta) - seeded
  - Butternuts (Ambassador) - seeded
  - Cabbages (Conquestador, Glory of Enkhuizen) - transplanted
  - Green beans (Contender, Paulista) - seeded
  - Lettuce (Commander, Great Lakes 659) - transplanted
  - Patti pans - seeded
  - Peas (Puget) - seeded
  - Spinach (Ford Hook Giant) and - seeded and transplanted
  - Spinach (Viroflay) – transplanted
  - Onions (Texas Grano, Caledon Globe, and Stark Ayres 5516) – seeded and transplanted.
- During application, ensure that no overlapping occurs. It is important that vegetable crops, especially sensitive crops such as lettuce and spinach, do not come into contact with **MOCAP® 150 GR** at concentrations higher than those recommended.
- Use the higher dosage for vegetables with a long growing season.

## **DIRECTIONS FOR USE:** Use only as directed.

- Assure even and uniform placement of the granules on the soil surface. Only apply **MOCAP® 150 GR** with accurate and properly calibrated equipment (e.g., Microband).
- The **MOCAP® 150 GR** granules must be incorporated into the soil directly after application.
- **All crops except citrus:**  
It is important to incorporate and mix the granules thoroughly with the soil to a depth of 15 to 25 cm using suitable equipment e.g., a tandem disc (at a speed of 8 km per hour) or a rotovator. Inadequate depth of incorporation will reduce pesticidal activity and may result in infestations on the lower roots and tubers.
- **Citrus:**  
The **MOCAP® 150 GR** application must be preceded and immediately followed by irrigation, to ensure proper distribution of the **MOCAP® 150 GR** active ingredient in the root zone.

**APPLICATION RATES**

| <b>Crop / Pest</b>   | <b>Dosage rate / ha</b>   | <b>Remarks</b>   |
|--|---|--|
| <b><u>CITRUS</u></b><br>Citrus nematode<br>( <i>Tylenchulus semipenetrans</i> )  | 10 g/m <sup>2</sup> drip area   | Remove organic material from the soil surface before application.<br>Apply <b>MOCAP® 150 GR</b> evenly in the drip area of the tree at the start of Nematode activity during Spring.<br>Apply mid-way through an irrigation cycle by first applying at least 10 mm of water, then apply the <b>MOCAP® 150 GR</b> , followed immediately by another 10 mm of water. This practice will ensure proper distribution of <b>MOCAP® 150 GR</b> active ingredient in the root zone. |
| <b><u>POTATOES</u></b><br>(Table potatoes)<br>Nematodes  | <u>Low Nematode infestation:</u><br>35 kg<br><br><u>High Nematode infestation:</u><br>50 kg | Apply a broadcast application of <b>MOCAP® 150 GR</b> prior to planting or the formation of ridges and beds. Incorporate granules into the soil to a depth of 15 to 25 cm. Plant potatoes soon after application, but not later than one week after application. An additional Nematicide treatment is recommended in situations of high Nematode infestation pressure. Refer to “ <b>USE RESTRICTIONS</b> ” above.  |
| <b><u>Potatoes</u></b><br>(Seed and chipping)<br>Nematodes   | 50 kg   | Apply a broadcast application of <b>MOCAP® 150 GR</b> 10 to 14 days prior to planting or the formation of ridges and beds. Incorporate granules into the soil to a depth of 15 to 25 cm. In situations of expected high Nematode infestation pressure, alternative nematode control measures must be taken prior to planting (e.g. soil fumigation). Refer to “ <b>USE RESTRICTIONS</b> ” above.   |
| <b><u>VEGETABLES</u></b><br><b>Baby marrows, Butternuts, Cabbages, Green beans, Lettuce, Onions, Patti pans, Peas &amp; Spinach</b><br><br>Nematodes | <u>Low Nematode infestation:</u><br>35 kg<br><br><u>High Nematode infestation:</u><br>50 kg | Apply a broadcast application of <b>MOCAP® 150 GR</b> 10 to 14 days prior to planting or the formation of ridges and beds. Incorporate granules into the soil to a depth of 15 to 25 cm. In situations of expected high Nematode infestation pressure, alternative nematode control measures must be taken prior to planting (e.g. soil fumigation). Refer to “ <b>USE RESTRICTIONS</b> ” above.   |
| <b><u>TOBACCO</u></b><br>(Irrigated)<br>Root-knot Nematodes<br>( <i>Meloidogyne</i> spp.)  | 50 kg   | Apply <b>MOCAP® 150 GR</b> prior to planting or the formation of ridges and beds as a broadcast application. Incorporate into the soil to a depth of 15 to 25 cm. The tobacco can be transplanted 3 to 7 days after application. An additional Nematicide treatment is recommended in situations of high Nematode infestation pressure. Refer to “ <b>USE RESTRICTIONS</b> ” above.  |

**MOCAP® 150 GR** is a registered trademark of **AMVAC CHEMICAL CORPORATION USA**.