

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

Insecticide



# MOCAP<sup>®</sup> 200 EC

Reg. No. L 10667 Act No. 36 of 1947

3: 27/7/2022 - Nov2022

An emulsifiable concentrate nematicide for the control of Nematode pests on agricultural crops as indicated.

## ACTIVE INGREDIENT

ethoprophos (organophosphate) 200 g/l

GROUP

1B

INSECTICIDE



**DANGER**

### Hazard Statements:

Toxic if swallowed.  
Fatal if inhaled.  
Fatal in contact with skin.  
Causes skin irritation.  
Causes serious eye irritation.  
May be fatal if swallowed and enters airways.  
May cause an allergic skin reaction.  
Very toxic to aquatic life.  
Very toxic to aquatic life with long lasting effects.

### Precautionary Statements:

Avoid release to the environment.  
Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.

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**villa**

UN Number: 3018

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

**MOCAP® 200 EC**

Reg. No. L10667 Act No. 36 of 1947  
 IRAC INSECTICIDE GROUP CODE: 1B

**ACTIVE INGREDIENT:**

ethoprophos (organophosphate) ..... 200 g/l

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P.O. Box 10413, ASTON MANOR, 1630, Tel. (011) 396 2233

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

Minimum time between the last application and harvest or feeding:	
Cucurbits	105 days
Potatoes	42 days

**NOTE**

**THE MAXIMUM RESIDUE LEVELS (MRL'S) WILL NOT BE EXCEEDED PROVIDED APPLICATIONS ARE APPLIED AS PRESCRIBED. WHEN PRODUCTION IS DESTINED FOR THE EXPORT MARKET, THE EXPORT AGENCY OF CONCERN MUST BE CONTACTED, PRIOR TO THE USE OF MOCAP® 200 EC IN A SPRAY PROGRAMME.**

**Hazard statements:**

Toxic if swallowed.
Fatal if inhaled.
Fatal in contact with skin.
Causes skin irritation.
Causes serious eye irritation.
May be fatal if swallowed and enters airways.
May cause an allergic skin reaction.
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

- Handle with extreme care.
- Very toxic to fish and wildlife.
- Store under lock and key in cool, dry and well-ventilated place.
- Store away from food, feeds, seed, fertilizers and other agricultural remedies.
- Keep out of reach of children, uninformed persons and animals.
- Re-entry: Do not enter treated area within two (2) days after treatment 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 pests 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.**

The continuous use of **MOCAP® 200 EC** in certain soils may result in an increase in the rate of bio-degradation of **Ethoprophos** and thus reduced efficacy.

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

Avoid breathing dust, fumes, mists, gas, vapours or spray.
Do not get in eyes, on skin, or on clothing.

Wash hands and face thoroughly after handling. Do not touch eyes.
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.
In case of inadequate ventilation wear respiratory protection.
IF SWALLOWED: Immediately call a POISON CENTER.
IF SWALLOWED: Get emergency medical help immediately.
IF ON SKIN: Wash with plenty of water and non-abrasive soap.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTRE.
Get emergency medical help immediately.
Rinse mouth.
Do NOT induce vomiting.
If skin irritation occurs: get medical help.
If skin irritation or rash occurs: Get medical help.
Take off immediately all contaminated clothing and wash before reuse.
Take off contaminated clothing and wash it before reuse.
Collect spillage.
Store in a well-ventilated place.
Store locked up.
Dispose of content/container to suitable landfill in accordance with local regulations.

- Prevent drift of spray mist onto other crops, grazing, rivers, dams or areas not under treatment or to nearby water sources.
- **Do not apply when Bees are very active on the crops.**
- **MOCAP® 200 EC** spray mixture may affect some plastic materials after prolonged use. Polyethylene, polypropylene, nylon and teflon materials are recommended. Polyvinyl chloride (PVC) is not recommended.
- Thoroughly clean spraying equipment directly after use and dispose of wash water where it will not contaminate food, grazing, boreholes, rivers or dams.
- **TRIPLE RINSE THE EMPTY CONTAINER AS FOLLOWS:** Invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. Thereafter rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank. Puncture the triple rinsed container 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 container to any other parties that may use it as a container for food or beverages.
- Prevent contamination of food, feed, drinking water and eating utensils.

### **SYMPTOMS OF HUMAN POISONING**

Nausea, vomiting, abdominal cramps, diarrhoea, excessive salivation, headache, giddiness, weakness, blurred vision, tearing, loss of muscular co-ordination, slurring of speech, twitching of muscles (especially of tongue and eyelids), mental confusion, disorientation, difficulty in breathing (chest tightness) and runny nose.

<b>Relevant hazardous components</b>	
<b>Ethoprophos</b>	200 g/l
Emulsifier	< 50 g/l
Emulsifier	< 50 g/l
Solvent	< 800 g/l

### **FIRST AID TREATMENT**

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

- **Inhalation:** Remove the person from the source of poisoning and keep the person calm and reassured. If the patient is not breathing, commence with artificial respiration and provide oxygen or closed chest cardiac massage.

- **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.
- **Eye contact:** Flush contamination out of eyes with clean lukewarm, gently flowing water for at least 15 minutes, while holding eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face.
- **If swallowed Ingestion:** **Do not induce vomiting.** If swallowed, drink 2 to 3 glasses of water. **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. Take the patient immediately to the nearest doctor or hospital, whichever is faster. **SHOW THIS LABEL TO THE DOCTOR.**

### **NOTE TO PHYSICIAN**

**MOCAP® 220 EC** 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.

**Mode of Action:** Non-systemic with contact action. Acetyl cholinesterase inhibitor.

### **RESISTANCE WARNING**

**MOCAP® 200 EC** is a group code 1B insecticide. Any insect population may contain individuals naturally resistant to **MOCAP® 200 EC** 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® 200 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.

### **PRODUCT INFORMATION**

- **MOCAP® 200 EC** is a contact action nematicide.
- It is important to incorporate and mix the product 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® 200 EC** 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**

- 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® 200 EC** 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.

- Under situations of heavy Nematode infestation, **MOCAP® 200 EC** will control Nematodes, but a degree of infestation may still occur, and it may not be possible to have an absolutely clean crop.
- Reduced efficiency can be expected if dry conditions occur after application.
- Plant healthy seed tubers, which have matured uniformly, to ensure synchronized emergence.
- It is important to ensure thorough coverage of plants.
- Plants must be growing vigorously, without stem and foliage damage due to factors e.g. blight, tuber moth, or hail damage. Also, the plants must not be stressed due to weed competition.
- Ensure that the potatoes are lifted as soon as possible after the crop has reached full potential. Late Nematode infestations can occur if potatoes are left over in the soil.
- The effectiveness of **MOCAP® 200 EC** on *Globedera rostochensis* and *Meloidogyne chitwoodi* is not known. It is thus not recommended for the control of these Nematode species.
- **POTATOES**
  - **Do not** use **MOCAP® 200 EC** on seed or chipping potatoes when any of the factors mentioned in first and second restrictions listed 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.

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

##### **Compatibility:**

- The compatibility of **MOCAP® 200 EC** with other agricultural chemicals (pesticides) may be influenced by several factors. As factors influencing compatibility may vary, a physical compatibility test must always be performed before such tank mixture is sprayed.
- When **MOCAP® 200 EC** is used in conjunction with any other agricultural remedy, all **WARNINGS**, **PRECAUTIONS** and **DIRECTIONS FOR USE** mentioned on that label, must be adhered to.

##### **Mixing instructions:**

- Half fill the spray tank with clean water.
- Add the required amount of **MOCAP® 200 EC** to the water while agitating.
- Fill the spray tank with water to the required level, while maintaining agitation, to ensure thorough mixing.
- Maintain agitation during application.
- Prepared spray mixture should not be left in the spray tank for any length of time, e.g. overnight.
- Apply preferably during cool, windless conditions, when rapid drying conditions exist.

##### **Application:**

**MOCAP® 200 EC** can be applied with conventional ground spraying equipment. It is important to ensure that the spray equipment is correctly calibrated prior to application and is in good working order, to ensure that the correct dosage is distributed evenly over the target area.

#### **APPLICATION RATES**

##### **IMPORTANT**

Refer to “**USE RESTRICTIONS**” above.

<b>Crop / Pest</b>	<b>Dosage rate</b>	<b>Remarks</b>
<b>Cucurbits</b> (Baby marrows Butternuts Patti pans)  Nematodes	<u>Low Nematode infestation</u> 26.25 ℓ / ha (1.31 ℓ / 10 ℓ water)  <u>High Nematode infestation</u> 37.5 ℓ / ha (1.9 ℓ / 10 ℓ water)	Apply <b>MOCAP® 200 EC</b> as a broadcast application prior to planting or the formation of ridges and beds. Incorporate the chemical into the soil to a depth of 15 to 25 cm. Plant the crop 10 to 14 days after application. In situations where severe Nematode infestation is expected, an additional nematicidal treatment is recommended.  Refer to “ <b>PRODUCT INFORMATION</b> ” and “ <b>USE RESTRICTIONS</b> ” above.

Crop / Pest	Dosage rate	Remarks
<p><b>Potatoes</b></p> <p>Nematodes</p>	<ul style="list-style-type: none"> <li>• <b>MOCAP® 200 EC</b> is applied at planting as part of a Nematode control programme in potatoes in conjunction with foliar applications with <b>Platoon® 100 SL</b>.</li> <li>• Where the <b>MOCAP® 200 EC</b> plus <b>Platoon® 100 SL</b> programme is intended for application on seed potatoes, or where potato crops are subjected to very high Root knot nematode infestation pressures, and in potato production areas listed below under “<b>Important notes regarding Root-knot Nematode control in Potatoes</b>”, the soil <b>must be fumigated pre-plant</b> with a registered soil fumigant for Nematode control (as indicated on the label of the fumigant) before implementation of the <b>MOCAP® 200 EC</b> plus <b>Platoon® 100 SL</b> Nematode management programme.</li> <li>• This spray programme will also suppress aphids.</li> <li>• Refer to the <b>Platoon® 100 SL</b> label for <b>WARNINGS, PRECAUTIONS, USE RESTRICTIONS</b> and <b>DIRECTIONS FOR USE</b>.</li> </ul>	<p><b>At Planting:</b> Apply <b>MOCAP® 200 EC</b> as a broadcast treatment onto moist soil before planting or before ridging of the rows. Incorporate the chemical into the soil up to a depth of 15 to 25 cm. Start planting the tubers as soon as possible – not later than 7-days after application.</p>
	<p><u>Low Nematode infestation:</u> <b>MOCAP® 200 EC</b> 26.3 ℓ / ha (1.3 ℓ / 10 ℓ water)</p>	
	<p><u>High Nematode infestation:</u> <b>MOCAP® 200 EC</b> 37.5 ℓ / ha (1.9 ℓ / 10 ℓ water)</p>	
	<p><b>Platoon® 100 SL</b> 2.48 ℓ / 100 ℓ water (250 ml / 10 ℓ water)</p>	<p><b>Platoon® 100 SL foliar applications:</b> Apply first treatment in 250 litres water per hectare one (1) week after crop emergence. Follow with a second treatment four (4) weeks later at a total volume rate of 600 litres spray mixture per hectare. Repeat with third treatment at the same volume rate four (4) weeks after second treatment.</p>
<p><b>Important notes regarding to Root knot nematode control in Potatoes:</b></p>		
<ol style="list-style-type: none"> <li>1. The efficacy of Nematicides is strongly influenced by factors beyond the Registration Holder’s control (e.g. ineffective and/or to shallow fumigation of the soil prior to planting, soil type such very sandy, light soils that leaches easily, high soil pH, or stress conditions (e.g. drought) on the crop). Some degree of Root knot nematode damage in potatoes must be expected under above-mentioned conditions, or when Nematode infested seed tubers are planted.</li> <li>2. The soil must be fumigated prior to planting and application of the <b>MOCAP® 200 EC PLUS Platoon® 100 SL</b> programme for potato plantings in the following areas: Northern Cape and Northwest Provinces (Prieska, Hopetown, Douglas, P.K. le Roux Dam irrigation areas, Vaalharts irrigation area, Barkly West, Christiana, Vryburg, Coetzersdam and Tosca).</li> <li>3. If potatoes tubers are left in the soil for periods longer than <b>30 days</b> after the final <b>Platoon® 100 SL</b> application, serious tuber damage may occur due to re-infestation of Root knot nematodes. This is due to insufficient <b>Platoon® 100 SL</b> residue levels in the soil or roots at this stage.</li> <li>4. If excessively high Root knot nematode levels are present in the soil due to a combination of above-mentioned factors, and/or when adverse agronomy practices are followed (e.g. the continuous planting of Nematode susceptible crops on the same fields), severe losses due to Root knot nematode damage may occur despite implementation of the chemical control programme recommended above.</li> </ol>		

The following product mentioned in this label may be replaced with an equivalent product:

- **PLATOON® 100 SL** (L 10649) = **VIDATE 100 SL** (L 10647).

**PLATOON® 100 SL** is a registered trademark of **VILLA CROP PROTECTION (PTY) LTD.**

**VIDATE 100 SL** is a registered product of **UNIVERSAL CROP PROTECTION (PTY) LTD.**

**MOCAP® 200 EC** is a registered trademark of **AMVAC CHEMICAL CORPORATION USA.**