PROFENOFOS 500 EC
Reg. No. L 6553 Act/Wet No. 36/1947

An emulsifiable concentrate contact and stomach insecticide / acaricide for the control of pests as listed.

‘n Emulgeerbare konsentraat kontak- en maaginsekdoder / mytdoder vir die beheer van insekplae soos aangedui.

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

**ACTIVE INGREDIENT/ AKTIEWE BESTANDDEEL:**
profenofos (organophosphate / organofosfaat) .............................. 500 g/l

Net volume / Netto volume: 1

Registration holder / Registrasiehouer:
VILLA CROP PROTECTION (PTY) LTD
PO Box / Posbus 10413
ASTON MANOR, 1630
TEL.: (011) 396 2233

Batch number: Lotnommer:
Date formulated: Formuleringsdatum:

**UN Number: 3017**

Vir volledige besonderhede, sien ingeslote pamflet.
For full particulars, see enclosed leaflet.
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HARMFUL SKADELIK

WARNINGS

Withholding periods:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Days lapsed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citrus</td>
<td>60</td>
</tr>
<tr>
<td>Cotton</td>
<td>21</td>
</tr>
<tr>
<td>Potatoes</td>
<td>14</td>
</tr>
</tbody>
</table>

• THE PRODUCT MAY CAUSE TAINT TO EDIBLE CROPS WHEN NOT USED AS INDICATED.
• Handle with care.
• Toxic if product is swallowed, inhaled or when absorbed through the skin.
• Causes skin and eye irritation. May cause skin sensitization.
• Toxic to bees, fish and wildlife.
• Flammable – do not store or use near open flames.
• Store under lock and key in cool, dry place, away from food, feeds, fertilizers and drink water.
• Keep out of reach of children, uninformed persons and animals.
• Re-entry: Do not enter treated area within 1 day after treatment unless wearing protective clothing.
• In case of poisoning, take the patient immediately to a doctor and make this label available to him/her.

Aerial application:

Notify all inhabitants in the immediate vicinity of the area to be sprayed and issue the necessary warnings. Do not spray over or allow drift of spray to contaminate adjacent areas or water.

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 against the remedy concerned as well as 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
• Do not inhale the spray mist or fumes.
• Avoid eye and skin contact.
• Wear protective overalls, rubber gloves, rubber boots and facemask or suitable respirator.
• Wash contaminated clothing after use.
• Wash immediately with soap and water after use or in the event of accidental skin contact.
• Do not eat, drink or smoke while mixing and applying or before washing hands and face and change of clothing.
• Avoid drift of spray onto the other crops, grazing, rivers, dams and areas not under treatment.
• Do not apply when bees are very active on the crops.
- Clean applicator after use. Dispose of wash water where it will not contaminate crops, grazing, rivers, dams, boreholes, fountains, etc.
- **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 10% of that of the container. Add the rinsings to the contents of the spray tank before destroying the container in the described manner.
- Destroy the empty container by perforation and flattening and dispose of it in a safe manner.
- **Never** re-use the empty container for any other purpose.
- Prevent contamination of food, feeds, drinking water and eating utensils.

**SYMPTOMS OF POISONING**
Symptoms of profenofos (a cholinesterase inhibitor) intoxication can include headache, fatigue, faintness, giddiness, excessive sweating, nausea, abdominal pains, vomiting, diarrhoea, and tightness of chest, anxiety, blurred vision, muscle twitching, respiratory distress, and coma.

**FIRST AID TREATMENT**
- **If poisoning is suspected:** Remove the patient from the source of poisoning to a well-ventilated area and keep him/her calm and at rest. Immediately call a physician.
- **Skin contact:** Remove contaminated clothing and wash the contaminated areas with plenty of soap and cold water for at least 15 to 20 minutes. Do not rub the skin.
- **Eye contact:** Immediately flush contaminated eyes for 15 to 20 minutes with clean cold water, while occasionally lifting upper and lower lids. Obtain medical advice if irritation persists.
- **Inhalation:** Administer artificial respiration and oxygen, if necessary. Do not apply direct mouth-to-mouth respiration.
- **Ingestion:** Have victim rinse mouth thoroughly with clean water. Do not induce vomiting, due to the aromatic solvent. Obtain medical advice immediately. If the person is not unconscious, give large quantities of water to drink. Never give anything by mouth to an unconscious person. Treat respiratory difficulty with artificial respiration and oxygen. Qualified medical personnel must perform administration of oxygen and lavage.
- **TAKE THE PATIENT TO THE NEAREST PHYSICIAN IMMEDIATELY.**

**NOTE TO PHYSICIAN**
This product contains profenofos, an organophosphate insecticide. Although atropine and 2-PAM are antidotal for most organophosphate insecticides, they may provide only slight therapeutic benefit in cases of profenofos poisoning. An aqueous suspension of activated charcoal can be administered to absorb remaining toxicant. Morphine, phenothiazines, reserpine, theophylline and similar drugs are contra-indicated and not to be used. Avoid aminoglycosides and succinylcholine, which have a blocking effect on the neuromuscular junction.

**RESISTANCE WARNING**
For resistance management, **PROFENOFOS 500 EC** is a group code 1B insecticide. Any insect population may contain individuals naturally resistant to **PROFENOFOS 500 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 **PROFENOFOS 500 EC** or any other group code 1B insecticide.
To delay insecticide resistance:
- avoid exclusive repeated use of insecticide from the same insecticide group code. Alternate or tank mix with products form different insecticide group codes,
- integrate the 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.

**APPLICATION**
All spray applications must be made with suitable equipment that is in good working order and correctly calibrated to ensure correct dosage rate and the desired coverage for that particular method of application.

**Ground application:**
- Ensure thorough coverage of the plants with a medium to fine droplet size.
- The following approximate spray volumes are recommended for use in **cotton**:
Plants up to 600 mm high - 100 litres per hectare
Plants over 600 mm high - 200 litres per hectare

- On citrus use high volume, high-pressure handguns or high volume mechanical sprayers. In certain cases a mistblower may also be used.

**Aerial application:**

Aerial application of **PROFENOFOS 500 EC** may only be done by a registered aerial application operator using a correctly calibrated, registered aircraft according to the instructions of SANS Code 10118 (Aerial Application of Agricultural Pesticides). 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 be met:

- **Volume:** A spray mixture volume of 30 litres 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.
- **Droplet coverage:** 30 to 40 droplets per cm² must be recovered at the target area.
- **Droplet size:** A droplet spectrum with a VMD of 250 to 280 microns is recommended. Limit the production of fine droplets less than 150 microns (high drift and evaporation potential) to a minimum.
- **Flying height:** Maintain the height of the spray boom at 3 to 4 metres above the target. Do not spray when aircraft dives, is in a climb or when banking.
- Use suitable atomising equipment that will produce the desired droplet size and coverage, but which will ensure the minimum loss of product. The spraying system must produce a droplet spectrum with the lowest possible Relative Span.
- **Position all the atomisers within the inner 60 to 75 % of the wingspan to prevent droplets from entering the wingtip vortices.**
- The difference in temperature between the wet and dry bulb thermometers, of a whirling hygrometer, should not exceed 8 °C.
- **Stop spraying if the wind speed exceeds 15 km/hour.**
- **Stop spraying under turbulent, unstable and dry conditions during the heat of the day.**
- **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:
  a) reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage),
  b) damage to other sensitive crops and/or non-target areas through drifting of the suspended spray cloud away from the target field.
- **Ensure 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 relevant data will be compiled in a logbook and kept for future reference.

**Compatibility:**

- **PROFENOFOS 500 EC** is not compatible with copper based compounds, sulphur or captab. Do not mix any of these products with **PROFENOFOS 500 EC**. If mixtures are to be used test the compatibility and if uncertain contact the registration holder.
- **Ensure that the pH of mixing water is adjusted to 4.5 using a suitable buffering agent prior to the adding of PROFENOFOS 500 EC.**

**Mixing Instructions:**

- Use clean water in spray tank.
- **Adjust the pH of the water to 4.5 with a suitable buffering agent.** Due to the efficacy and stability of **PROFENOFOS 500 EC** that are pH sensitive, ensure that the pH of the water is buffered prior to the mixing of the product with the water.
- **Add the recommended quantity of PROFENOFOS 500 EC to the spray tank while agitating.**
- **Continue to agitate during spraying.**
- Mixture must be used without delay and do not allow standing for prolonged periods in spray tank.
## APPLICATION RATES

<table>
<thead>
<tr>
<th>Crop / Pest</th>
<th>Dosage rate</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Potatoes</strong>&lt;br&gt; Aphis&lt;br&gt;(Green peach aphid&lt;br&gt;&amp; Potato aphid)</td>
<td>0.75 l / ha</td>
<td>Full cover application:&lt;br&gt;Apply as a full cover spray as soon as an infestation is noticed. Ensure thorough wetting of the plants by applying 300 to 500 litres water per hectare. Repeat at 7 to 10 day intervals as long as the pest persists.</td>
</tr>
<tr>
<td><strong>Tuber moth</strong></td>
<td>1.0 l / ha</td>
<td>Apply the first spray when 10 to 15 % of growth points are infested and repeat at 10 to 14 day intervals as long as the pest remains active. Ensure thorough wetting of the plants by applying in 300 to 500 litres water per hectare.</td>
</tr>
<tr>
<td></td>
<td>1.5 l / ha</td>
<td>In case of a heavy infestation, apply this rate.</td>
</tr>
<tr>
<td><strong>Cotton</strong>&lt;br&gt;African bollworm,&lt;br&gt;Looper,&lt;br&gt;Aphids,&lt;br&gt;Leaf hoppers&lt;br&gt;(Jassids) &amp;&lt;br&gt;Thrips</td>
<td></td>
<td>Airborne application:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Apply in 30 litres water per hectare.</td>
</tr>
</tbody>
</table>

### Ground application: dosage rates are based on plant height:

(a) < 600 mm:<br>1.1 l / 100 l water / ha |
(b) ≤ 600 mm, but older than 12 weeks:<br>1.5 l / 100 l water / ha |
(c) > 600 mm:<br>1.5 l / 200 l water / ha |

### Aerial application on all plant heights:

1.65 l / 30 l water / ha

### Weekly spray programme or spray programme based on weekly scouting (scout 24 randomly selected plants in up to 15 hectare). |

### Threshold levels per 24 plants:

#### African bollworm:

Spray when counts reach 12 eggs or 2 larvae per 24 plants during a single scouting observation or when the cumulated counts over two or more unsprayed weeks exceed the thresholds. |

#### Looper:

1 to 12 weeks after plant emergence:<br>Spray as soon as 50 % of the leaf surface is damaged.<br>12 Weeks onwards:<br>Spray as soon as 2 larvae per 24 plants are found. |

#### Aphids:

Dry land cultivation:<br>Spray as soon as aphid colonies are found on 6 or more plants out of 24 plants. |

Irrigation cultivation:<br>Spray as soon as the first signs of honeydew are observed. |

#### Thrips:

Spray only when high levels of infestation occur. |

#### Leafhoppers (Jassids):<br>Spray as soon as 2 or more insects are found per leaf.
### Crop / Pest

<table>
<thead>
<tr>
<th>作物/害虫</th>
<th>施药率</th>
<th>备注</th>
</tr>
</thead>
<tbody>
<tr>
<td>棉花（续）</td>
<td>红蜘蛛螨（<em>Tetranychus urticae</em>)</td>
<td>以下筛选方法推荐：</td>
</tr>
</tbody>
</table>

#### 地面施药：

**剂量率是根据植物高度：**

(a) < 600 mm:
0.75 to 1.0 L / 100 L 水 / ha

(b) < 600 mm, 但老于12周：
1.0 to 1.5 L / 100 L 水 / ha

(c) > 600 mm:
1.0 to 1.5 L / 200 L 水 / ha

#### 航空施药在整个植物高度：

1.1 to 1.65 L / 30 L 水 / ha

#### 红蜘蛛螨数量指数

<table>
<thead>
<tr>
<th>总红蜘蛛螨数量</th>
<th>螨类指数</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1 to 10</td>
<td>1</td>
</tr>
<tr>
<td>11 to 30</td>
<td>2</td>
</tr>
<tr>
<td>30 +</td>
<td>3</td>
</tr>
</tbody>
</table>

计算每种植物平均指数值通过将48个个体指数加起来并除以48来计算每种植物的平均得分。

重要的是要保持每种植物的平均得分低于2，以防止作物经济损害。

### 地面施药：

低剂量施药将在棉叶上造成小的白色烧伤斑点。这将不会影响产量。
**Crop / Pest**

<table>
<thead>
<tr>
<th>Citrus Navels, Valencias, Mid-seasons, Lemons &amp; Grapefruit</th>
</tr>
</thead>
</table>

**Dosage rate**

- **African bollworm & Aphids**
  - 50 ml / 100 l water
  - Apply at 20 to 90% petal drop. Apply a medium volume cover spray. Apply 6 to 7 litres spray mixture for every 1 metre tree diameter or 1 metre tree height above the skirt.

- **Thrips & Psylla**
  - 75 ml / 100 l water
  - When using a mistblower for application, the concentration of the spray mixture must be increased according to the decrease in the spray volume.
  - **IMPORTANT**
    - Thrips must again be treated approximately 3 weeks later using another registered thripicide.
    - Monitor the orchards and spray when the threshold level for thrip damage is surpassed.

- **Mealybugs**
  - 100 ml / 100 l water
  - Apply at 20 to 90% petal drop. Apply a full cover spray. Apply 10 to 12 litres spray mixture for every 1 metre tree diameter or 1 metre tree height above the skirt.
  - This treatment will, in addition to the pests mentioned above, also suppress red scale, red spider mite and rust mite (50% control).

**Remarks**

- **IMPORTANT**
  - Do not use grapefruit and easy peel cultivars.
  - When PROFENOFOS 500 EC is to be applied after a winter oil application, ensure all conditions favour this decision.
  - Do not apply PROFENOFOS 500 EC after a winter oil application.
  - Do not apply to trees under drought and/or affected with root disease, as leaf drop could occur.
  - Do not use PROFENOFOS 500 EC in tank mixtures with any other product.
  - Do not apply PROFENOFOS 500 EC sprays within short periods (3 weeks).
  - Do not apply PROFENOFOS 500 EC at night.

- **Lemons:**
  - Remove all the fruit larger than golf ball size from the trees prior to application.

- **Important Note**
  - Do not apply at all on fruitlets larger than pea-berry size. The leaves will be speckled by this treatment. However, this will not affect the yield.

- **Mid-season cultivars:**
  - Do not apply at all on fruitlets larger than pea-berry size. The leaves will be speckled by this treatment. However, this will not affect the yield.

**IMPORTANT NOTE**

- Red scale always poses a danger to South African citrus orchards.
- Orchards should be monitored and depending on the level of infestation apply a registered red scale treatment post-harvest.
- Red scale can also be treated during summer with SUPRATHION 420 EC (L 3245).
- Use a suitable buffering agent to adjust the pH of the spray water.