METAMIDOFOS

Reg. No.: L 4531 Act /Wet No. 36 of/van 1947

A systemic and contact water soluble concentrate insecticide for the control of insect pests on agricultural crops as indicated.

‘n Sistemiese en kontak-, wateroplosbare konsentraat insekdoder vir die beheer van insekplae op landbougewasse soos aangedui.

| IRAC INSECTICIDE GROUP CODE: | 1B | IRAC INSEKDODERGROEP KODE: |

ACTIVE INGREDIENT/AKTIEWE BESTANDDEEL:
Methamidophos (organophosphate) / metamidofos (organofosfaat) ..................... 585 g/ℓ

Registration holder / Registrasiehouer:
ARYSTA LifeScience South Africa (Pty) Ltd
7 Sunbury Office Park,
Off Douglas Saunders Drive, La Lucia Ridge,
South Africa, 4019
Tel: 031 514 5600

Contents/Inhoud (ℓ)

Batch No. / Lot Nr.:

Date of manufacture: / Datum van vervaardiging:

U.N. No. 3017

READ THE LABEL IN DETAIL BEFORE OPENING THE CONTAINER. / LEES DIE ETIKET VOLLEDIG VOORDAT DIE HOUER OOPGEMAAK WORD.
For full particulars, see enclosed leaflet. / Vir volledige besonderhede, sien ingeslote pamflet.
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WARNINGS:

MINIMUM TIME BETWEEN LAST APPLICATION AND HARVEST:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Time Between Application and Harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOMATOES</td>
<td>3 days</td>
</tr>
<tr>
<td>POTATOES</td>
<td>14 days</td>
</tr>
<tr>
<td>CRUCIFERAE</td>
<td>21 days</td>
</tr>
<tr>
<td>PEACHES</td>
<td>28 days</td>
</tr>
</tbody>
</table>

- Handle with extreme care.
- Toxic if swallowed and by skin contact.
- Harmful if inhaled.
- Moderate irritant to eyes and skin.
- Toxic to fish, bees and wildlife.
- **EXTREMELY FLAMMABLE** - do not store near open flame.
- Store under lock and key in a cool, dry place, away from food, feeds and seed.
- Keep out of reach of children, uninformed persons and animals.
- **Not for use in the home garden.**
- **In case of poisoning call a doctor and make the label available to him/her.**
- **Re-entry:** Do not enter treated area within 2 days 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 water and adjacent areas.

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, incompatibility 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.

PRECAUTIONS:
- Do not inhale fumes or spray mist.
- Avoid skin and eye contact.
- Wear protective clothing, suitable mask, face mask, rubber gloves and rubber boots when handling and mixing the product and whilst applying the spray mixture.
- Wash immediately with soap and water after use and accidental skin contact.
- Wash contaminated clothing after use.
Do not eat, drink or smoke while mixing or applying the product or before washing hands and face and changing clothing.

Avoid drift of spray onto other crops, grazing, rivers, dams and areas not under treatment.

Clean application equipment after use. Dispose of wash water where it will not contaminate crops, grazing, rivers, dams and boreholes.

Triple rinse empty containers 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 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 HUMAN POISONING:**

If swallowed and aspirated into the lungs, chemical pneumonia can occur. Symptoms of exposure to the product include: headache, dizziness, weakness, nausea, abdominal cramps, excessive sweating, anxiety, blurred vision, small pupils, muscle twitching and may cause central nervous system depression.

Depending on severity of poisoning these symptoms become worse with the onset of vomiting, abdominal pain and diarrhea. In extreme cases unconsciousness, convulsions and severe respiratory depression may occur.

**FIRST AID TREATMENT:**
The airway should be kept clear to maintain respiration. First aid treatment should be performed by qualified medical personnel and should include, if necessary, mouth-to-nose respiration and cardiac massage.

Inhalation: Immediately remove source of contamination or move the patient to fresh air. Keep the patient warm and at rest. If necessary, perform mouth-to-nose respiration and administer oxygen. Obtain medical advice immediately.

Skin contact: Remove contaminated clothing, shoes and leather goods immediately. Wash skin gently and thoroughly with clean water and non-abrasive soap until no evidence of chemical remains. Obtain medical advice immediately.

Eye contact: Flush eyes immediately with large amounts of gently flowing cold water, occasionally lifting upper and lower lids, for at least 15 to 20 minutes until no evidence of chemical remains. Obtain medical advice.

Ingestion: Do not induce vomiting, due to aromatic solvent present in product. Obtain medical advice immediately and make the container, or label or Data Sheet available. Never give anything by mouth to a semi-conscious or unconscious person. If vomiting occurs, take care to prevent vomit from being inhaled. Establish and maintain airway. Treat respiratory difficulty with artificial respiration and oxygen.

**ADVICE TO PHYSICIAN:**
This product contains a cholinesterase inhibitor and an aromatic solvent. If product is aspirated into the lungs during ingestion or vomiting, mild to severe chemical pneumonia may be caused. The stomach should be emptied as soon as possible by careful gastric lavage, using a cuffed endotracheal tube already in place. An aqueous suspension of activated charcoal can be administered to absorb remaining toxicant. As early as possible, administer atropine sulfate intravenously and pralidoxime chloride or obidoxime chloride. The dose and frequency of atropine varies with each patient, administer until atropinization is achieved. Signs of atropinization are dry, flushed skin, tachycardia and pulse rate of over 120 per minute.

Important Note: Morphine, phenothiazines, reserpine and theophylline are contraindicated in organophosphorous poisoning. Avoid aminoglycosides and succinylcholine.
RESISTANCE WARNING:
METAMIDOFOS is a group code 1B insecticide. Any insect population may contain individuals naturally resistant to METAMIDOFOS 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 METAMIDOFOS 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.

NOTE: The peach aphid Myzus persicae is a pest on peaches and potatoes, but has become resistant to organophosphates in some areas. METAMIDOFOS may possibly, not control this aphid satisfactorily everywhere on these two crops.

DIRECTIONS FOR USE: Use only as directed.

Compatibility:
METAMIDOFOS is compatible with a wide range of pesticides. However, since it is not possible for Tsunami Plant Protection to test all possible combinations, the onus lies with the user to carry out a compatibility test, if tank mixtures are considered.

Mixing Instructions:
- Half fill the spray tank with clean water.
- Measure out the required quantity of METAMIDOFOS and premix this with at least 10 litres of clean water. If any other product is to be added to the tank mixture, the required volume of that product must be premixed in similar fashion.
- Agitate the water in the spray tank and add the premixed product(s) to the tank.
- Fill the spray tank with water to the required volume, while maintaining agitation to ensure thorough mixing.
- Maintain agitation during spraying.
- Use the prepared mixture immediately.
- Do not allow to stand overnight.

Aerial application:
Aerial application of METAMIDOFOS 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 litre 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: 25 to 35 droplets per cm² must be recovered at the target area.
- Droplet size: A droplet spectrum with a VMD of 280 to 300 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/h.

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.

**DOSAGE RATES:**

<table>
<thead>
<tr>
<th>Crop/Pest:</th>
<th>Dosage Rate:</th>
<th>Remarks:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>POTATOES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuber moth</td>
<td>100 ml</td>
<td>Aerial: 500 ml &lt;br&gt;Full cover spray. With tractor applications use 200 to 500 litre spray mixture per ha depending on plant size. Apply prophylactically with 10 to 14 day intervals. Also aerial application. Ridge at least twice during growing season.</td>
</tr>
<tr>
<td>Aphids *</td>
<td>50 ml</td>
<td>Aerial: 250 ml &lt;br&gt;Spray at first sign of infestation and repeat every 10 to 14 days. Also aerial applications.</td>
</tr>
<tr>
<td>Cutworm (Western Cape only)</td>
<td>100 ml</td>
<td>Aerial: 500 ml &lt;br&gt;Apply as a full cover spray when the plants come up. Repeat with 10 to 14 day intervals, prophylactically.</td>
</tr>
<tr>
<td><strong>TOMATOES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American bollworm, leaf miner (potato tuber moth)</td>
<td>100 ml</td>
<td>Apply the spray solution under pressure so as to wet the plant thoroughly. Start spraying at flowering time and repeat every 7 to 14 days, as long as these pests remain active. Apply up to 500 litre spray mixture per hectare to plants under 60 cm high and 1000 litre or more spray mixture per hectare to plants above 60 cm in height. Will also suppress red spider mites.</td>
</tr>
<tr>
<td>Semi (Plusia) looper</td>
<td>100 ml</td>
<td>500 to 1000 ml &lt;br&gt;Apply as low volume applications and with mist blowers: ensure thorough coverage. Use lower dose for smaller plants (up to 60 cm high).</td>
</tr>
<tr>
<td><strong>CRUCIFERAE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aphids and caterpillars of Greater cabbage moth and Diamond-back moth</td>
<td>100 ml</td>
<td>As for the above two caterpillar species, except that spraying is only warranted after appearance of the pest.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Apply when infestations are noticed. The under-side of the leaves should also be wetted. Add a spreader. Repeat weekly.</td>
</tr>
<tr>
<td>PEACHES Aphids *</td>
<td>100 mL</td>
<td>Apply as a high pressure full cover spray. Repeat if necessary in case of re-infestation.</td>
</tr>
</tbody>
</table>

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