An emulsifiable concentrate contact insecticide for the control of certain insect pests in crops as indicated.

‘n Emulgeerbare konsentraat kontakinsekdoder vir die beheer van sekere insekplae in gewasse soos aangedui.

**ACTIVE INGREDIENT / AKTIEWE BESTANDDEEL:**
methidathion / metidation ........................... 420 g/l
(organothosphate/organofosfaat)

Net volume / Netto volume: l

Registration holder / Registrasiehouer:
UNIVERSAL CROP PROTECTION (PTY) LTD
P.O. Box / Posbus 801, KEMPTON PARK, 1620,
Tel. (011) 396 2233

Batch No: 
Lotnr: 
Date of manufacture: 
Vervaardigingsdatum: 

**UN number: 3017**

Vir volledige besonderhede, sien ingeslote pamflet. For full particulars, see enclosed leaflet.
UNIVERSAL METHIDATHION 420EC
Reg. No. L 7583 Act/Wet No. 36/1947
IRAC INSECTICIDE GROUP CODE / IRAC INSEKDOODERGROEP KODE: 1B

ACTIVE INGREDIENT/ AKTIEWE BESTANDDEEL:
Methidathion (organophosphate) / metadition (organofosfaat)  …………………. 420 g/l

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TOXIC GIFTIG

WARNINGS

WITHOLDING PERIODS:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Withholding Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citrus: (one application only on fruit)</td>
<td>56 days</td>
</tr>
<tr>
<td>Potatoes:</td>
<td>6 days</td>
</tr>
<tr>
<td>Cactus Pears:</td>
<td>1 day</td>
</tr>
<tr>
<td>Vines: (one application only of METHIDATHION 420EC at 50 ml/100 l water)</td>
<td>8 days</td>
</tr>
</tbody>
</table>

- Handle with extreme care.
- Poisonous when inhaled, swallowed or absorbed through the skin.
- Can cause skin and eye irritation.
- Highly toxic to fish, birds and wildlife.
- Toxic to bees.
- Store under lock and key in a cool, dry place, away from food and feedstuffs.
- Keep out of reach of children, uninformed persons and animals.
- Flammable: Store away from open flame and sparks.
- Re-entry: Do not enter treated area within 2 days after treatment unless wearing protective clothing.
- In case of poisoning immediately call a doctor and make this label available to him or transfer the patient to a hospital.

Aerial application:
Notify all inhabitants in the immediate vicinity of the area to be sprayed and issue the necessary warnings. Do not spray over water and adjacent areas and take precaution not to allow drift of spray to contaminate adjacent areas and 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 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 spray mist or fumes. Avoid eye and skin contact.
- Wear protective overalls, rubber gloves, rubber boots and face mask or suitable respirator.
- Wash with soap and water immediately after use or in the event of accidental skin contact.
- Wash contaminated clothing after use.
- Do not eat, drink or smoke while applying, mixing or before washing hands and face and changing 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.
- Do not contaminate crops, rivers, dams, boreholes, fountains etc. with rinse water.
• 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, feed, drinking water and eating utensils.

SYMPTOMS OF HUMAN POISONING
• Symptoms might appear and progress with extreme rapidity.
• Headache, fatigue, faintness, giddiness, excessive sweating, nausea, abdominal pain, vomiting, diarrhoea, tightness of the chest, anxiety, blurred vision, muscle twitching beginning in the eyelids and tongue, small pupils, respiratory distress, convulsions, coma.
• Confusion, ataxia, slurred speech, loss of reflexes are some of the central nervous system effects which may lead to misdiagnosis as acute alcoholism.

FIRST AID TREATMENT
• Remove patient from source of poisoning to a well ventilated area and keep him quiet and reassured.
• Skin contact: Remove contaminated clothing and rinse contaminated body area thoroughly with plenty of soap and cold water. Do not rub skin hard.
• Eye contact: Flush contamination out of eyes with clean water for at least 15 to 20 minutes, holding the eyelid(s) open.
• Swallowed: If product has been swallowed, have the person to rinse mouth thoroughly with water. Do not induce vomiting due to the presence of an aromatic solvent. Do not give any salt water or any other emetic. Seek medical attention immediately. Administer artificial respiration or closed chest cardiac massage if necessary. Do not apply mouth-to-mouth respiration. Never give anything by mouth to an unconscious person.
• TAKE THE PATIENT TO THE NEAREST PHYSICIAN IMMEDIATELY.

NOTE TO PHYSICIAN
• The product contains a solvent that may cause chemical pneumonitis if aspirated into lungs.
• Administer atropine sulphate intravenously as early as possible in an adequate dosage until signs of atropinisation (dry flushed skin, tachycardia and pulse rate of over 120 per minute) occur.
• In severe progressive cases of poisoning, administer pralidoxine (2-PAM) very slowly. Toxogonin can be administered instead of 2-PAM.
• To prevent gastrointestinal absorption in the unconscious who have swallowed this product, perform stomach lavage using bicarbonate solution and activated charcoal.
• Avoid aminoglycosides and succinylcholine, which have a blocking effect on the neuromuscular junction. Morphine, similar drugs, Phenothiazines, reserpine and theophylline are contra-indicated.

RESISTANCE WARNING:
For resistance management, METHIDATHION 420EC is a group code 1B insecticide. Any insect population may contain individuals naturally resistant to METHIDATHION 420EC 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 METHIDATHION 420EC 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.

USE RESTRICTIONS:
Organophosphorous resistant citrus red scale (Aonidiella auranti) occurs in certain areas and the control with METHIDATHION 420EC may not be adequate.

DIRECTIONS FOR USE: Use only as directed.
Applications should not be done under very hot conditions or when plants are under stress. Rain or irrigation within 48 hours after application will adversely affect control.
Compatibility:
- **METHIDATHION 420EC** is not compatible with lime sulphur, Bordeaux mixture, benomyl plus oil, zinc oxide or calcium arsenate.
- The compatibility of **METHIDATHION 420EC** with other product may be influenced by the formulation of the products involved as well as the quality of the water. As these factors may vary, a physical compatibility test must always be performed before such tank mixture is sprayed.
- When **METHIDATHION 420EC** is used in conjunction with any other agricultural remedy, all WARNINGS, PRECAUTIONS and DIRECTIONS FOR USE mentioned on that label, must be adhere to.

Mixing instructions:
- Half fill the spray tank with clean water.
- Add a suitable acidifier/buffer while agitating the water.
- Shake the **METHIDATHION 420EC** container well before use.
- Add the recommended volume of **METHIDATHION 420EC** to the spray tank.
- Keep the agitator running whilst the balance of the water is added to the tank.
- Ensure that thorough agitation of the mixture is maintained during mixing and spraying.
- If any other product is to be mixed with **METHIDATHION 420EC**, the recommended quantity of this product must be pre-mixed, before adding to the spray tank.
- Agitate the water in the spray tank and then add the product(s) to the tank in the following sequence (as applicable): acidifier/buffer or adjuvant, suspension concentrate, water soluble concentrate, emulsifiable concentrate.
- Prepared spray mixture must not be left in the spray tank for any length of time, e.g. overnight.

Ground Application:
- It is important to 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.
- Mistblower or any medium or high volume sprayer, which is equipped with an efficient agitation mechanism, may be used.
- Ensure application equipment is correctly calibrated and in a good working condition.

Aerial Application:
Aerial application of **METHIDATHION 420EC** may only be done by a registered Aerial Application Operator using a correctly calibrated, registered aircraft according to the instructions of SANS 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**: 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/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 FOR APPLICATION:**

<table>
<thead>
<tr>
<th>Crop/Pest:</th>
<th>Dosage Rate:</th>
<th>Remarks:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Citrus:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mealy bugs (Planococcus citri, Nipaecoccus vastator, Pseudococcus longispinus &amp; Paracoccus burnerae)</td>
<td>150 ml/ 100 l water</td>
<td>Preventative treatment (prior to scale infestation). <strong>Grape fruit and soft skin cultivars:</strong> Do first application during August to September at 20 to 30 % petal drop and the second 4 weeks later. <strong>Other Cultivars:</strong> Apply profenofos 500 EC at 20 to 30 % petal drop followed by METHIDATHION 420EC 4 weeks later. This treatment will control soft brown scale and suppress citrus flat mite (Brevipalpus californicus) and waxy scale.</td>
</tr>
<tr>
<td>Red scale (Aondiella auranti)</td>
<td>150 ml/ 100 l water</td>
<td>Apply two applications. The first pre-flower in August and the second 4 weeks after 100 % petal drop. Add 1 litre light mineral oil per 100 litre water to the pre-flowering application.</td>
</tr>
<tr>
<td>Soft brown scale (Coccus hesperidum)</td>
<td>50 ml/ 100 l water</td>
<td>Apply when the pest is noticed. A second application may be necessary to control crawlers initially protected by females.</td>
</tr>
<tr>
<td>Waxy scale (Gascardia spp.)</td>
<td>150 ml/ 100 l water</td>
<td><strong>Summer generation:</strong> Apply a full cover spray when the nymphs start migrating from the leaves to the twigs. <strong>Winter generation:</strong> Apply as for the summer generation but as a post-harvest application.</td>
</tr>
<tr>
<td>Soft green scale (Pulvinaria aethiopica)</td>
<td>150 ml/ 100 l water</td>
<td>Apply as a full cover spray during the period 5 to 6 weeks after petal drop.</td>
</tr>
<tr>
<td><strong>Deciduous Fruit</strong></td>
<td></td>
<td>Winter dormant spray. <strong>Apply at least two high volume high pressure applications.</strong> The first as soon as possible after leafdrop, but prior to pruning, and the second 4 weeks later. More than two applications may be necessary. These treatments will assist in the control of red scale, grey scale, mealy bug and woolly apple aphid.</td>
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<tr>
<td>Pernicious scale (Quadraspidotis perniciosus)</td>
<td>75 ml/ 100 l water</td>
<td></td>
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<tr>
<td><strong>Cactus Pear</strong></td>
<td></td>
<td>Apply a full cover spray to the point of run-off when the pest is present.</td>
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<tr>
<td>Cochineal (Dactylopius opuntiae)</td>
<td>50 ml/ 100 l water</td>
<td></td>
</tr>
<tr>
<td>Prickly pear moth (Cactoblastis cactorum)</td>
<td>50 ml/ 100 l water</td>
<td>Apply a cover spray during the egg laying period, but before hatching. Wet the egg batches thoroughly. In the Karoo, apply during the first two weeks of March and the first two weeks of November.</td>
</tr>
<tr>
<td><strong>Grapevines</strong></td>
<td></td>
<td><strong>Mealybug (Planococcus ficus)</strong> <strong>Apply as a full cover spray using about 6500 litre spray mixture per hectare. Apply only as a single late corrective treatment in addition to the standard spraying programme.</strong></td>
</tr>
<tr>
<td><strong>Potatoes</strong></td>
<td></td>
<td><strong>Ground application:</strong> Apply as a full cover spray using at least 500 litre spray mixture per hectare when the first moths appear. Repeat at 7 to 10 day intervals. The potatoes should be ridged at least twice during the season. <strong>Aerial application:</strong> Apply when the first moths appear. Repeat at 7 to 10 day intervals. The potatoes should be ridged at least twice during the season.</td>
</tr>
<tr>
<td>Potato tuber moth (Phthorimaea operculella)</td>
<td>100 ml/ 100 l water</td>
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</tr>
<tr>
<td></td>
<td>500 ml/ha</td>
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</table>