

Reg. No. **L3428** Act No. 36 of 1947 N-AR **1421** (Namibia) **W130340** (Botswana)

A water dispersible granular contact insecticide for the control of aphids in crops as indicated.

GROUP 1 A INSECTICIDE

Active Ingredients: pirimicarb (carbamate)..... 500 g/kg

Product names marked ® or ™, the ALLIANCE FRAME the SYNGENTA Logo and the PURPOSE ICON are Trademarks of a Syngenta Group Company



#### **Hazard statements:**

Toxic if swallowed. Causes serious eye irritation. Harmful if Inhaled. Suspected of causing cancer. Very toxic to aquatic life with long-lasting effects.

## **Precautionary statements:**

**Prevention:** Obtain special instructions before use. Avoid breathing dust/fumes/gas/mist/vapours/spray. Wash skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. **Response:** If swallowed, immediately call a POISON CENTRE/doctor. Rinse mouth. Collect spillage.

EMERGENCY TEL NO.: +27 82 446 8946 (Griffon)

UN 2757

syngenta.

Registration holder Syngenta South Africa (Pty) Ltd Co. Reg. No. 1998/013761/07 Private Bag X 60 HALFWAY HOUSE, 1685 Tel.: +27 11 541 4000



**DANGER** 

## 1. WARNINGS:

**Hazard statements:** Toxic if swallowed. Causes serious eye irritation. Harmful if inhaled. Suspected of causing cancer. Very toxic to aquatic life with long-lasting effects.

**Withholding periods:** Minimum number of days between last application and harvest.

ARTICHOKES, ASPARAGUS, BEETROOT, BERRIES, BROAD BEANS. CUCURBITS, ENDIVES, LEEKS, LETTUCE, LIMA BEANS, OKRA, PEAS, PEPINOS, SHALLOTS. RADISHES, STRAWBERRIES AND TURNIPS..... 2 days GRAIN SORGHUM..... 30 days LUCERNE AND PASTURES..... 3 days LUPINS..... 42 days PECANS..... 56 days POTATOES, CITRUS, APPLES, CANOLA AND COTTON..... 14 days STONE FRUIT AND GROUNDNUTS (hay)..... 21 days WHEAT, OATS AND CRUCIFERAE..... 7 days

**NOTE:** Compliance with these withholding periods will ensure that residues do not exceed local maximum residue limits (MRL), but the import tolerances of other countries might possibly be exceeded. If the crop to be treated is intended for export, consult the relevant importer or exporting body regarding the use of this product, MRL's and recommended withholding periods.

- Handle concentrate with care.
- Poisonous when absorbed through the skin, swallowed, or inhaled.
- Toxic to animals and birds.
- Store in a cool place away from food and feed.
- Keep out of reach of children, uninformed persons and animals.
- Keep livestock and domestic animals out of treated areas for at least 24 hours.
- In case of poisoning: Call a doctor and present this
- Re-entry: Do not enter treated area within one (1) day after application unless wearing protective clothing.

 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 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 disease 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 and the environment, or harm to people 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, that could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

#### 2. PRECAUTIONS:

Precautionary statements: Prevention: Obtain special instructions before use. Avoid breathing dust/fume/gas/mist/vapours/spray. Wash skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. Response: If swallowed, immediately call a POISON CENTRE/doctor. Rinse mouth. Collect spillage.

- Do not eat, drink, or smoke while handling this product.
- Prevent contamination of food, feed, drinking water and eating utensils.
- Wear rubber gloves and a face shield when handling the concentrate. If you get it in your eyes, flush it out at once.
   If you get it on your skin, wash it off at once. If you spill it on your clothes, change and wash them.
- Containers and packages must be completely emptied before being disposed of. Thereafte,r rinse the container three (3) times with a volume of water equal to a minimum of 10% of that of the container. Add the rinsate to the contents of the spray tank before destroying the

- container in the prescribed manner.
- While spraying, avoid contact with the spray as much as you can. Avoid spray drift onto other crops, grazing rivers, or dams.
- Clean applicator thoroughly after use and dispose of wash water where it will not contaminate crops, grazing, rivers, or dams.
- Destroy empty container in the prescribed manner and do not use for any other purpose.
- Change and wash your work clothes. Wash yourself.

**Symptoms of human poisoning:** Symptoms of poisoning would be those typical of inhibition of acetyl cholinesterase. After poisoning, symptoms would develop quickly, starting with excessive salivation and constriction of pupils, leading to muscular twitching and incontinence followed by convulsions and death from respiratory paralysis.

#### **First Aid and Medical Treatment:**

If swallowed, induce vomiting and transfer patient to nearest doctor or hospital.

**Note to doctor:** Induce vomiting followed by gastric lavage. Atropine is an antidote and should be given immediately, intramuscularly at a level of 1 - 4 mg and then 2 mg at 30 minute intervals. Patient must be kept fully atropinised. Do not administer PAM or PPS. Oxygen and artificial respiration may be required. No sedative should be given.

## 3. RELEVANT SUBSTANCES:

| Chemical name   |                       |
|---|-----------------------|
| pirimicarb (ISO)  |                       |
| Classification  | Concentration (% w/w) |
| Acute Tox. 3; H301<br>Acute Tox. 3; H331<br>Skin Sens. 1; H317<br>Carc. 2; H351<br>Aquatic Acute 1; H400<br>Aquatic Chronic 1; H410 | ≥ 50 - < 70           |
| M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 100  | ansente               |

## 4. RESISTANCE MANAGEMENT:

**APHOX** is a group code 1A insecticide. Any insect population may contain individuals naturally resistant to **APHOX** and other group code 1A insecticides. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly and exclusively in programs. These resistant insects may not be controlled by **APHOX** or any other group code 1A insecticides.

## 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 programs.

Syngenta cannot accept responsibility for any losses that may result from the failure to control pests resistant to APHOX.

For specific information on resistance management contact the registration holder of this product.

## **5. DIRECTIONS FOR USE:** Use only as indicated.

- Fill spray tank to just below the total volume required.
- Make a slurry of APHOX to be added to the tank in a suitable container ensuring that all the chemicals has dispersed.
- Add, in the case of aerial application, the APHOX and Opron oil to the tank and stir. Adjust the level of the solution to the correct volume.
- Where the crop foliage is dense make sure that the spray also penetrates properly to the lower parts of the plants.
- For crops where it is not otherwise specified in the recommendation table, apply a maximum of two (2) blocks of two (2) **APHOX** applications per season, with 10 - 14-day intervals between sprays within each block.
- Alternate with a different product with another mode of action in between the two (2) blocks.

**NOTE: APHOX** does not affect most of the natural enemies which attack aphids on these crops.

# 5.1 Aerial Application

**Precautions:** Aerial application of this product on canola, cotton, oats, sorghum and wheat 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 Remedies). 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. It is therefore essential that the following criteria are met:

- a) Application parameters:
- **Volume:** A volume of 30 ℓ/ha 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 the product is applied aerially at a lower volume rate than recommended above.
- **Droplet coverage:** A droplet coverage of 30 40 droplets per cm<sup>2</sup> must be recovered at the target.
- **Droplet size:** A droplet spectrum with a VMD of 250 280 microns is recommended. Ensure that the production of fine droplets (less than 150 microns high drift and evaporation potential) is restricted to a minimum.
- Flying height: The height of the spray boom should be maintained at 3 4 metres above the target. Do not spray when aircraft is in a climb, at the top, during a dive, or when banking.

## b) Equipment:

 Use suitable atomising equipment (hydraulic nozzles or rotary atomisers) that will produce the desired droplet size and coverage but which will ensure the minimum loss of product either through endodrift (within target field) or exodrift (outside target field).

- The operator must use a setup that will produce a droplet spectrum with the lowest possible relative span.
- All nozzles/atomisers should be positioned within the inner 60 - 75% of the wingspan to prevent droplets from entering the wingtip vortices.
- c) Meteorological conditions:
- The difference in temperature between the wet and dry bulb thermometers of a whirling hygrometer should not exceed 8°C. The addition of a suitable anti-evaporant is recommended if the VMD of the droplets is less than 200 - 250 microns.
- Stop spraying if the wind speed exceeds 15 km/h.
- Aerial application of this product must not be done under turbulent, unstable conditions during the heat of the day when rising thermals and downdraughts occur.
- Also note that the application of this product under temperature inversion conditions (spraying in or above the inversion layer) may lead to the following:
  - Reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage).
  - Damage to other sensitive crops and or non-target areas through the movement of the suspended spray cloud away from the target field.

Obtain assurance from the aerial spray operator that the above requirements are met.

#### 6. RECOMMENDATIONS:

Remarks

attack continues.

Spray thoroughly.

A suitable adjuvant must be used with APHOX applications.

| Crop/pest   | Dosage                |
|---|-----------------------|
| APPLES<br>Aphids  | 50 g/100 ℓ water      |
| Remarks • Spray as soon as an infestation when necessary.                         | on is noticed. Repeat |
| ARTICHOKES AND ASPARAGUS  |                       |
| Aphids  | 50 g/100 ℓ water      |
| Remarks • Thorough coverage is necessary  | <i>i</i> .            |
| BERRIES (Includes blueberries, raspberries, blackberries and gooseberries) Aphids | 50 g/100 ℓ water      |
| Remarks • Thorough coverage is necessary  | ,                     |
| BEETROOT Green peach aphid (Myzus persicae)                                       | 1 kg/ha               |
| Remarks  • Use at least 500 ℓ spray volume/ha plus 18 mℓ/100 ℓ water AGRAL.       |                       |
| BEANS Cowpea Aphid (Aphis craccivora)   | 500 g/ha              |

Apply as beans emerge and thereafter while aphid

| Crop/pest                     | Dosage           |
|-------------------------------|------------------|
| BROAD BEANS AND LIMA<br>BEANS |                  |
| Aphids                        | 50 g/100 ℓ water |

#### Remarks

- Apply as beans emerge and thereafter while aphid attack continues.
- Spray thoroughly.

| opialy and diging.      |                 |
|-------------------------|-----------------|
| CANOLA                  |                 |
| Cabbage aphid           | 500 g - 1 kg/ha |
| (Brevicoryne brassicae) |                 |
| Green peach aphid       |                 |
| (Myzus persicae)        |                 |

#### Remarks

CITDLIC

- Apply when aphids first appear using 30 100 \( \ell \) water/ha (ground application) or 30 50 \( \ell \) water/ha (aerial application).
- Use higher rate if temperature is below 20°C.
- Add 18 mℓ AGRAL/100 ℓ water.

| Aphids                                | 40 g/100 ℓ water                                  |
|---------------------------------------|---|
| Remarks  Spray as and when necessary. | 43  |
| CUCURBITS<br>Aphids                   | 100 - 200 g/100 ℓ<br>water, or<br>500 g - 1 kg/ha |

#### Remarks

- Apply every 5 10 days during periods of rapid plant growth to delay virus build-up.
- Use the higher rate if temperatures are below 20°C.

| COTTON Aphids (except resistant strains of Aphis gossypii) | Ground<br>application<br>150 g/ha                           |
|--|---|
| unge.  | <b>Aerial application</b><br>175 g + 125 mℓ<br>Opron oil/ha |

#### Remarks

- Ground application: Apply in 200 ℓ water.
- Aerial application: Apply in 30 ℓ water.
- **Dryland cotton:** Spray when aphids first appear.
- Irrigated cotton: Apply when honeydew on plants is noticed. Ensure thorough coverage and repeat when necessary.

| CRUCIFERAE (Includes broccoli, brussels sprouts, cabbages and cauliflower)  Cabbage aphid (Brevicoryne brassicae) | 5)                                       |
|---|--|
| Cabbage aphid   |  |
|   | 250 g + 30 mℓ<br>AGRAL 90 (L5279)/<br>ha |

### Remarks

- Apply in 500 ℓ water.
- Spray when aphids first appear and repeat every two (2) weeks.
- Direct sprays into the centre of the plant.
- Sprays will not control aphids deep within the plant.

| Oprayo wiii riot ooriti | or aprilab doop within the plant |
|-------------------------|----------------------------------|
| ENDIVES                 | 7)                               |
| Aphids                  | 50 g/100 ℓ water                 |
|                         |                                  |

## Remarks

- Spray as and when necessary.
- Thorough coverage is necessary.

| Crop/pest  | Dosage  |  |
|--|---|--|
| GROUNDNUTS<br>Aphids   | 250 g/ha  |  |
| <ul><li>Remarks</li><li>Apply in 400 ℓ water.</li><li>Ensure thorough coverage.</li></ul>              | 57  |  |
| LEEKS<br>Aphids  | 50 g/100 ℓ water                                  |  |
| <ul><li>Remarks</li><li>Spray as and when necessary.</li><li>Thorough coverage is necessary.</li></ul> |   |  |
| LETTUCE<br>Aphids  | 100 - 200 g/100 ℓ<br>water, or<br>500 g - 1 kg/ha |  |

## Remarks

- Spray when aphids are detected and repeat if necessary.
- Use the higher rate if temperatures are below 20°C.

| LUCERNE AND PASTURES |                    |
|----------------------|--------------------|
| Aphids               | 100 - 150 g in 200 |
|                      | - 300 ℓ water      |

## Remarks

- Higher rate to be used when there is a high aphid population density or with dense crop growth.
- Complete coverage and penetration of the crop is essential.

| LUPINS |                |
|--------|----------------|
| Aphids | 250 - 300 g/ha |
|        |                |

#### Remarks

- Apply when aphids first appear.
- Good coverage of the infested area is essential.
- Repeat if necessary.

| OKRA<br>Aphids | 50 g/100 ℓ water  |
|----------------|-------------------|
| Remarks        | oo gi 100 % water |

- Spray as and when necessary.
- Thorough coverage is necessary.

| ORNAMENTALS         |                  |
|---------------------|------------------|
| (Including proteas) |                  |
| Aphids              | 50 g/100 ℓ water |

#### Remarks

Ensure thorough coverage of the plants to the point of run-off.

Note: Because of the wide range of crops and pests encompassed under ornamentals, the phytotoxicity and efficacy of this product cannot be guaranteed under all uses. Test the chemical for phytotoxicity on a small area of crop before widespread usage.

| PEAS   |                   |
|--------|-------------------|
| Aphids | 100 - 200 g/100 l |
|        | water, or         |
|        | 500 g - 1 kg/ha   |

### Remarks

- Spray when aphids are detected and repeat if necessary.
- Use the higher rate if temperatures are below 20°C.

| PECANS<br>Aphids | 1 | 7.8 | 100 g/100 ℓ water |
|------------------|---|-----|-------------------|
|                  |   |     |                   |

#### Remarks

If aphids are present, spray once in the middle of

| PEPINOS |  |                  |
|---------|--|------------------|
| Aphids  |  | 50 g/100 ℓ water |

| Crop/pest                                | Dosage   |    |
|--|----------|----|
| Remarks  Thorough coverage is necessary. | <u>a</u> |    |
| POTATOES<br>Aphids                       | 500 g/ha |    |
| Remarks  • Apply in 500 ℓ water.         |          | 40 |

Ensure thorough coverage. **RADISHES Aphids** 100 - 200 g/100 ℓ water, or 500 g - 1 kg/ha

Remarks

- Apply every 10 14 days commencing one (1) week after planting.
- Use 500 ℓ spray volume/ha.
- Add 18 mℓ AGRAL/100 ℓ water.
- If lower spray volumes per hectare are used, increase the rate per 100  $\ell$  to maintain the equivalent rate of product per hectare.
- Use the higher rate if temperatures are below 20°C.

| Honeydew aphid<br>(Melanaphis sacchari) | Ground application                                       |
|---|--|
| Funnel aphid<br>(Rhopalosiphum maydis)  | 250 g/ha  Aerial application 250 g + 125 mℓ Opron oil/ha |

#### Remarks

- **Ground application:** Apply in 150 ℓ water when the pest is increasing.
- **Aerial application:** Apply in 30  $\ell$  water when the pest is increasing.

| SPINACH AND SHALLOTS | R                |
|----------------------|------------------|
| Aphids               | 50 g/100 ℓ water |

#### Remarks

- Spray as and when necessary.

| <ul> <li>Thorough coverage is necessary.</li> </ul>  |                  |
|--|------------------|
| STONE FRUIT (Includes peaches, apricots, cherries, nectarines and plums) Black peach aphid (Brachycaudus persicae) | 50 g/100 ℓ water |
| Green peach aphid (Myzus persicae)   |                  |

## Remarks

- Ensure thorough coverage.
- Repeat application when re-infestation occurs.

| STRAWBERRIES<br>Aphids | 35 g/100 ℓ water |
|------------------------|------------------|
|------------------------|------------------|

#### Remarks

- Thorough coverage is necessary.
- If used in conjunction with predatory mites, apply before release or only after mites have fully established within the crop.

| TURNIPS | 100 000 /100 /                 |
|---------|--------------------------------|
|         | 100 - 200 g/100 ℓ<br>water, or |
|         | 500 g - 1 kg/ha                |

## Remarks

- Apply every 10 14 days commencing one (1) week after planting.
- Use 500 ℓ spray volume/ha.
- Add 18 mℓ AGRAL/100 ℓ water.

| the rate per 100 ℓ to maintain the equivalent rate of product per hectare.  Use the higher rate if temperatures are below 20°C. |   |  |
|---|---|--|
| WHEAT<br>Green aphid<br>(Acyrthosiphon hordium)   | Ground<br>application<br>250 g/ha                     |  |
|   | <b>Aerial application</b> 250 g + 125 mℓ Opron oil/ha |  |
| Remarks  • Ground application: Apply in 150 / water   |   |  |

If lower spray volumes per hectare are used, increase

Dosage

- **round application:** Apply in 150 \( \ell \) water.
- **Aerial application:** Apply in 30  $\ell$  water.

NOTE: Apply only to wheat which is over 200 mm in

| -                    |    |                    |
|----------------------|----|--------------------|
| WHEAT AND OATS       | 7) |                    |
| Brown aphid          |    | Ground             |
| (Macrosiphum avenae) |    | application        |
|                      |    | 250 g/ha           |
|                      |    |                    |
|                      |    | Aerial application |
|                      |    | 250 g + 125 mℓ     |
|                      |    | Opron oil/ha       |

# Remarks

Crop/pest

## **Ground application:**

- Apply in 150 ℓ water.
- Spray when the infestation of aphids reaches an average of 5 aphids/ear.

## Aerial application:

Apply as above in 30  $\ell$  water.

APHOX® is a registered trade mark of a Syngenta Group Company. AGRAL® is a registered trade mark of Plaaskem (Pty) Ltd.

© SYNGENTA AG, 2000. Copyright of this document is reserved. All unauthorised reproduction is forbidden.

SA. Reg.: 2016-07-07

