

BEFORE USING THIS PRODUCT READ THE LABEL CAREFULLY!

Insecticide



# THIATOX DIRECT 250

Reg. No. L 9379 Act/Wet No. 36 of/van 1947  
N-AR 1480

2: 10/9/2018 – Sept/2018

*A water dispersible granule insecticide for the control of pests as indicated.  
'n Water dispergeerbare korrel insekdoder vir die beheer van plae soos aangedui.*

#### ACTIVE INGREDIENT / AKTIEWE BESTANDDEEL

thiamethoxam (chloro-nicotinyl) **250 g/kg** tiametoksam (chloro-nikotiniel)

IRAC INSECTICIDE GROUP CODE **4A** IRAC INSEKDODER GROEPKODE



**villa**   
**PUBLIC HEALTH**

Registration holder / Registrasiehouer:

Villa Crop Protection (Pty) Ltd.

Co. Reg. No. / Mpy. Reg. Nr. 1992/002474/07

PO Box / Posbus 10413, Aston Manor, 1630

Tel: 011 396 2233

Website / Webblad: [www.villacrop.co.za](http://www.villacrop.co.za)

**24 HR EMERGENCY NUMBER:**

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**+264 61 211 111**

**UN Number: 3077**

Willow Set & Print 011 394-4486



**CAUTION  
VERSIGTIG**



GERUUKSAANWYSINGS INGESLUIT

VERWYS NA BESONDERHEDE  
GEDRUK OP HOUER/SAK

Date formulated:

Formuleringsdatum:

DIRECTIONS FOR USE ENCLOSED

REFER TO DETAILS PRINTED

ON CONTAINER/BAG

Batch number:

Lotnummer:

**THIATOX DIRECT 250**

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Registration holder / Registrasiehouer:

**VILLA CROP PROTECTION (PTY) LTD.**

Co. Reg. No.: 1992/002474/07 Mpy. Reg. Nr.

PO Box / Posbus 10413

ASTON MANOR, 1630, TEL.: (011) 396 2233

**CAUTION / VERSIGTIG****WARNINGS****Withholding periods:**

<b>Minimum time between the last application and harvest</b>	
Apples	119 days
Citrus	176 days
Green peppers	41 days
Mangoes	130 days
Tomatoes	28 days

- Handle with care.
- Irritating to eyes and skin.
- Harmful when swallowed, inhaled or absorbed through the skin.
- Toxic to bees and fish.
- Do not spray directly onto food.
- Store under lock and key in a cool, dry place away from food, feeds, fertilizers and drinking water.
- Keep out of reach of children, uninformed persons and animals.
- Do not apply to surfaces where food is prepared or handled.

**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. The action and effect thereof may be effected by factors such as abnormal soil, climatic and storage conditions, quality of dilution water, compatibility with other substances not indicated on the label, the occurrence of resistance of the pest 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, 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**

- Harmful if swallowed, absorbed through skin, or inhaled.
- Avoid breathing vapors.
- Avoid eye and skin contact.
- Wear a facemask, rubber gloves and boots when handling, preparing and applying the concentrate.
- Wash with water in the event of accidental eye contact.
- Wash with soap and water after use or in the event of accidental skin contact.
- Wash contaminated clothing after use.
- Do not eat, drink or smoke whilst handling this product, using the toilet or before washing hands and face and change of clothing.
- Prevent contamination of food, feeds, drinking water and eating utensils.
- 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** 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 a third of that of

the container. Add the rinsing to the contents of the spray tank, before destroying the container in the prescribed manner.

- Destroy the container by perforation and flattening and dispose of it in a safe way.
- **Never** re-use the empty container for any other purpose.
- **In case of poisoning call a doctor and make this label available to him/her.**

### **ENVIRONMENTAL HAZARDS**

- This product is toxic to wildlife, highly toxic to aquatic invertebrates and extremely toxic to fish. Use of the pesticide adjacent to water may affect aquatic organisms. To protect these organisms, do not apply this pesticide within 10 meter from dams, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish farm ponds.
- Do not apply directly to water or to areas where surface water is present, or to intertidal areas below the mean high water mark.
- To protect the environment, do not allow the pesticide to enter or run off into storm drains, drainage ditches, or surface water.
- Apply this product in calm weather when rain is not predicted for the next 24 hours will help ensure that wind or rain does not blow or wash the pesticide off the treated area.
- Do not contaminate water when cleaning equipment or disposing of equipment wash water.
- Drift and runoff from treated areas may be hazardous to aquatic organisms in neighbouring areas.
- Apply this product only as specified on this label.
- When making applications, care should be taken to avoid household pets, particularly fish and reptile pests to the contaminated.
- This product is highly toxic to bees exposed to direct treatment or residues on blooming plants.

### **SYMPTOMS OF HUMAN POISONING**

No cases of poisoning have been described in the general population and none from occupational exposure. However, symptoms that may arise if the product is mishandled and overexposure occurs are: nausea, vomiting, diarrhoea, abdominal pain, ataxia, unsteady gait, hyperexcitability, salivation, tremors and incontinence. Larger doses may cause convulsions and loss of consciousness.

### **FIRST AID TREATMENT**

- **Skin:** Remove contaminated clothing, shoes and leather goods. Wash skin gently and thoroughly with cold water and non-abrasive soap. Do not rub the skin. Apply olive oil to affected areas for prompt relief. Get medical attention if irritation occurs and persists.
- **Eyes:** Rinse eyes with clean water for at least 20 minutes. If irritation occurs and persists, obtain medical attention.
- **Inhalation:** If vapours or mists have been inhaled and irritation has developed, remove the source of contamination or move victim to fresh air. If breathing difficulty or irritation occurs and persists, obtain medical attention.
- **Ingestion:** Have victim rinse mouth thoroughly with water. Have person sip a glass of water if able to swallow. **Do not induce vomiting, due to aromatic solvent. Obtain medical advice immediately.** 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.

### **NOTE TO PHYSICIAN**

There is no specific antidote available. This product contains materials that may cause severe pneumonitis if aspirated. In cases of ingestion, consider gastric lavage however prevent aspiration. Observe patient for respiratory difficulty from aspiration pneumonitis. Treat symptomatically and supportively.

### **RESISTANCE WARNING**

**THIATOX DIRECT 250** is a group code 4A insecticide. Any insect population may contain individuals naturally resistant to **THIATOX DIRECT 250** and other group code 4A insecticides. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by **THIATOX DIRECT 250** or any other group code 4A 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 programmes.

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

**USE RESTRICTIONS**

**HONEY BEES:** Do not apply onto fruit trees and vegetable crops as a foliar spray when honey bees are present. Prevent drift onto surrounding areas where Honey bees may visit flowering plants.

- **Apples:**
  - Only apply **THIATOX DIRECT 250** as a soil drench treatment where a micro irrigation system is used.
  - Only apply **THIATOX DIRECT 250** to actively growing and healthy trees.
- **Citrus:**
  - Only apply **THIATOX DIRECT 250** as a soil drench treatment where a micro irrigation system is used.
  - Only apply **THIATOX DIRECT 250** to vigorously growing, stress free and healthy trees with well-developed root systems.
  - Soils with high clay content (above 25 %) may adversely affect the efficacy of **THIATOX DIRECT 250**.
  - Factors that limit optimal sap flow in the trees (such as drought, stress, bent branches, etc.) can reduce the efficacy of **THIATOX DIRECT 250**.
  - Sub-optimal control of Red scale control may be obtained on a branch or side shoot in a tree, despite a **THIATOX DIRECT 250** application.
  - **Do not** apply **THIATOX DIRECT 250** on lemons or limes.
- **Grapes:**
  - Only apply **THIATOX DIRECT 250** as a drench application.
  - **THIATOX DIRECT 250** must **not** be applied through the irrigation system.
  - Apply **THIATOX DIRECT 250** within one month after harvest.
  - Soils with high clay content (above 25 %) may adversely affect the efficacy of **THIATOX DIRECT 250**.
  - Factors that limit optimal sap flow in the trees (such as drought, stress, bent branches, virus infections, old plantings etc.) can reduce the efficacy of **THIATOX DIRECT 250**.
- **Mangoes:**
  - **THIATOX DIRECT 250** may provide variable control of Mango scale on some fruit.
  - Apply **THIATOX DIRECT 250** to healthy, actively growing trees only.
  - Only apply **THIATOX DIRECT 250** as a soil drench application where micro or drip irrigation system is used. Do not apply under dry land conditions. Dysfunctional irrigation systems will reduce the effectiveness of a **THIATOX DIRECT 250** treatment.
- **Tomatoes:**
  - Do not apply **THIATOX DIRECT 250** soil drenches more than two (2) times per crop season.
  - Alternate **THIATOX DIRECT 250** applications with Whitefly remedies from a different chemical mode of action class for **RESISTANCE MANAGEMENT**.
- **Lawns and Turf:**
  - Prevent drift onto nearby flowering plants at all times.

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

**Mixing instructions:**

- Half fill the spray tank with clean water.
- Prepare a slurry of the **THIATOX DIRECT 250** to be added to the tank in a suitable container, ensuring that all the chemical has dispersed.
- Add the mixture to the water while stirring.
- Fill the spray tank with water to the required level, while maintaining agitation, to ensure thorough mixing.
- Maintain agitation during application.
- It is important to prepare spray mixtures that will be applied soon after mixing only.
- Prepared spray mixture must not be left in the spray tank for any length of time, e.g. overnight.
- Do not use brackish water.
- **DO NOT** apply this product with oil.

1. **For use in, on and around buildings and structures for the control of listed pests, including residential, institutional, public, commercial and industrial buildings.**

**Application instructions:**

- **Shake container before use.**
- Calibrate spraying equipment before mixing **THIATOX DIRECT 250**. Use hand held spraying equipment equipped with 8003 or 8004 T-jet nozzles to deliver coarse droplets at a low pressure (max. 250 kPa). Avoid fine droplets or spray mist, especially when applied indoors.
- Apply onto surfaces on which flies are particularly likely to settle. Such areas may include window sills, door frames, warm wall areas and areas near animal pens, provided the applied product is kept out of reach of animals.
- Apply **only** in locations not accessible to children, pets, domestic animals or wildlife. Protect from direct sunlight, water and rainfall.
- **DO NOT** apply this product in any room used as a living, eating, sleeping or recovery area by patients, the elderly, or infirm when they are in the room.
- **DO NOT** apply to classrooms, nurseries, or daycare facilities when in use.
- **DO NOT** apply to institutions, including libraries, sport facilities, etc., when occupants are present in the immediate treatment area.
- **DO NOT** apply this product to raw commodities used for food or feed, except for the fruits and vegetables listed below. Adhere to the **Withholding periods** as listed under **WARNINGS** above.
- **DO NOT** apply bait where animals can lick the product. Do not apply directly to livestock or livestock feed as illegal residues may result.
- Apply **THIATOX DIRECT 250** suspension on the day of mixing, preferably immediately after preparation. Do not treat dirty, highly porous or newly whitewashed walls to prevent loss of long term efficacy.

**Surface Staining:**

- **THIATOX DIRECT 250 has not stained** or causes damage to painted or varnished surfaces, plastics, tiles, sliding of other surfaces when water applied alone cause no damage. However, treat a small area and allow to dry to determine whether staining will occur. To avoid contamination from previous treatments, thoroughly wash out sprayers, hoses and screens with water and detergent before using **THIATOX DIRECT 250**.

**USE SITES**

Use **THIATOX DIRECT 250** as a perimeter, crack-and-crevice, and/or spot treatment in and around structures such as buildings (e.g. houses, hospitals, etc.), food manufacturing, processing and serving establishments (e.g. abattoirs, restaurants, etc.), farm crop & animal structures (e.g. greenhouses, poultry pens, stables) and modes of transport (e.g. aircraft, buses, rail cars, etc.) where insect pests might be attracted to or need to be prevented from infesting.

2. **Control of pests in fruit trees, vegetables and lawns & turf:**

**Application instructions:**

**Foliar application:**

- **Shake container before use.**
- Apply in 200 to 300 ml water per 10 m<sup>2</sup> with a correctly calibrated sprayer that is in good working condition, to ensure that the correct dosage is evenly distributed over the target area.
- Ensure complete coverage of plants, but not to the point of run-off. Plants with higher leaf surface area index will require higher spray volumes to obtain complete coverage.

**Soil drench application:**

- Ensure a clean soil surface, i.e. remove all weeds and plant debris under the tree. Prepare a well around the trunk.
- Apply around the entire base of the trunk. In the case of mangoes, apply at the drippers.
- Irrigate within 24 hours after application, to ensure that the product is drenched into the soil.
- Movement of the product into the soil will be promoted if the soil is slightly damp.
- Apply and incorporate **THIATOX DIRECT 250** into the soil before application of any fertilizer.

## APPLICATION RATES

### 1. Control of pests inside and around buildings / structures: in, on and around buildings and structures for the control of listed pests, including residential, institutional, public, commercial and industrial buildings

Determine size of area to be treated in m<sup>2</sup>. Determine beforehand how much water is required to wet 1 m<sup>2</sup> of the particular surface to be treated with a paint brush or sprayer, as rough or non-painted surfaces will require more water than smooth and painted surfaces. Multiply the dosage rate below per 1 m<sup>2</sup>, as well as the water volume required for 1 m<sup>2</sup>, with the total amount of square metres to be treated.

<i>Situation</i>	<i>Pest</i>	<i>Dosage rate</i>	<i>Weeks control</i>	<i>Remarks and pests controlled</i>
<p><b>Outside:</b> Abattoirs, animal housing, domestic dwellings, garbage containers, food processing plants and other industrial and commercial areas</p> <p><b>Around:</b> Industrial sites, feedlot manure heaps, garbage dumps, poultry farms and animal housing (<b>ONLY</b> in areas inaccessible to livestock, domestic animals and children)</p> <p><b>Inside:</b> Commercial and industrial facilities and animal houses (<b>ONLY</b> in areas inaccessible to livestock, domestic animals and children)</p>	Ants, House flies and Cockroaches	40 g / 1 ℓ water	4	<p><b>Initial application</b> Apply spray mixture over a 20 m<sup>2</sup> area.</p> <p style="text-align: center;"><b>OR</b></p> <p>Paint a minimum of 30 spots (±10 x 30 cm) where flies congregate or settle (refer “<b>Application</b>” above).</p> <p><b>NOTE</b> <b>Around feedlot manure heaps.</b> <b>DO NOT</b> apply bait on manure heaps or dispose of treated targets with manure.</p>
	Termites around houses and Fleas	40 g / 1 ℓ water	4	<p><b>Initial application</b> Apply spray mixture over a 20 m<sup>2</sup> area.</p> <p style="text-align: center;"><b>OR</b></p> <p>Paint a minimum of 30 spots (±10 x 30 cm) where flies congregate or settle (refer “<b>Application</b>” above).</p>

### **NOTE**

Spray all infested areas, internal structural surfaces, e.g. walls, roof/ceiling, infested furniture, mattresses, bedding, externally around doors, windows, inside and behind cupboards, under shelves, etc.

## 2. Control of pests in fruit trees, vegetables and lawns & turf:

<b>Crop/Pest</b>	<b>Dosage Rate</b>	<b>Remarks</b>
<b>Apples</b> Woolly apple aphid ( <i>Eriosoma lanigerum</i> )	3 g / tree	Refer to “ <b>USE RESTRICTIONS</b> ” and “ <b>APPLICATION TECHNIQUES</b> ” above. <u>Drench application:</u> Drench as a single application. Start with treatment during the last half of September. Mix in a jug with 1 litre of water and apply per 1 tree.
<b>Citrus</b> Red scale ( <i>Aonidiella aurantii</i> )	18 g / tree	<u>Drench application:</u> Drench as a single application. Application can be performed between mid-August to mid-September (trees are in the green bud to white bud stage). For optimal results, apply treatments 4 to 6 weeks prior to the first crawler movement. Mix in a jug with 1 litre of water and apply per 1 tree. Refer to “ <b>USE RESTRICTIONS</b> ” and “ <b>APPLICATION TECHNIQUES</b> ”
<b>Grapes</b> Table & Wine grapes Mealybug ( <i>Planococcus ficus</i> )	1.2 g / plant in 0.5 to 1.0 ℓ water	Refer to “ <b>USE RESTRICTIONS</b> ” and “ <b>APPLICATION TECHNIQUES</b> ” above.  Drench as a single application around the base of each vine in 500 ml water. Under dry land conditions and in sandy soils, the water volume can be increased to 1 litre mixture per vine.
<b>Mangoes</b> Mealybug ( <i>Planococcus citri</i> , <i>Pseudococcus longispinus</i> , <i>Nipaecoccus viridus</i> )  Mango scale ( <i>Aulacaspis tubercularis</i> )  Mango seed weevil ( <i>Sternochetus mangiferae</i> )	6 g / tree	Refer to “ <b>USE RESTRICTIONS</b> ” above. Control of the pests mentioned depends on effective translocation of the product within the tree. <b>THIATOX 250 DIRECT</b> efficiency is affected adversely by factors that inhibit translocation (e.g. old re-worked trees or trees under stress such as during drought or flooded conditions). Mix with 1 litre water and apply with a jug as a soil drench. Drench as a single application. Application can be performed between the end of July until middle August. Apply as follow depending on the irrigation system: <ul style="list-style-type: none"> <li>• Drip irrigation – apply the product directly under the dripper.</li> <li>• In orchards with two (2) drippers per tree – divide the application volume in two (2) equal parts and apply one half under each dripper.</li> <li>• Micro irrigation – apply product around the base of the stems</li> </ul>
<b>NOTE</b> Depending on conditions, variable control of mango scale may be obtained. Refer to “ <b>USE RESTRICTIONS</b> ” above.		
<b>Peppers (Capsicums)</b> Aphids and Whiteflies	0.6 g / litre water	Apply 50 ml of the solution per plant at transplant or within a week.  Repeat 4 weeks later. Apply only 2 sprays per season.
<b>Tomatoes</b> Whiteflies ( <i>Trialeurodes vaporariorum</i> , <i>Bemisia tabaci</i> )	0.03 g / plant	Apply as a soil drench around the stem base in 50 ml water per plant at transplant or shortly afterwards. Irrigate within 24 hours after application. In cases of high Whitefly pressure, repeat application 28 days later. Only 2 applications per season.

<b>Crop/Pest</b>	<b>Dosage Rate</b>	<b>Remarks</b>
<u>Lawns and Turf</u> Mole Crickets	875 g / ha	<p>First determine the size of the mole crickets by drenching an area on the lawn within a dishwashing liquid solution (50 ml dishwashing liquid / 10 litre water) where mole cricket activity is evident. Mole crickets larger than 15 mm will <b>NOT BE</b> controlled effectively.</p> <p>Apply as an overall application in at least 250 litres water per hectare at the first signs of infestation. Irrigate within 24 hours after application. Do not mow the lawn until after irrigation or rainfall.</p> <p>Repeat the treatment when necessary. For best results a preventative treatment can be applied at the end of October and repeated two (2) months later to prevent mole cricket outbreaks. Only two (2) applications per season.</p>
White grubs (Larvae of various Scarabaeidae beetle species)	1200 g / ha (10 000 m <sup>2</sup> )	<p><b><u>IMPORTANT</u></b>  <b>Only first and second instar larvae will be controlled effectively.</b></p> <p>Apply as a preventative and curative treatment. Only two (2) applications per season.</p> <p>Preventative: Treatments can be performed during November, January and March to obtain season long protection in areas where White grubs are known to be a pest.</p> <p>Curative: Look for White grub infestations from November until April. Apply as an overall application at the first signs of infestation. Irrigate within 24 hours after application. Do not mow the lawn until after irrigation or rainfall.</p> <p>Repeat when necessary.</p>