

BEFORE USING THIS PRODUCT READ THE LABEL CAREFULLY!

Insecticide



THURICIDE WP

Reg. No. L 1204 Act/Wet No. 36 of/van 1947
N-AR 1888

3: 08/05/00 – Jan2019

A wettable powder biological insecticide for the control of specific caterpillar pests as indicated.

'n Benatbare poeier biologiese insekmiddel vir die beheer van spesifieke rusperplae soos aangedui.

ACTIVE INGREDIENT / AKTIEWE BESTANDDEEL

Bacillus thuringiensis var. kurstaki **16000 IU/mg** *Bacillus thuringiensis var. kurstaki*

IRAC INSECTICIDE GROUP CODE **11A** IRAC INSEKODER GROEPKODE

kg

villa

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

UN Number: Not Regulated

Willow Set & Print 011 394-4486



CAUTION
VERSIGTIG



GERUUKSAANWYSYNGS INGESLUIT

VERWYS NA BESONDERHEDE
Date formulated: **GEDRUK OP HOUER/SAK**
Formuleringsdatum:

DIRECTIONS FOR USE ENCLOSED

REFER TO DETAILS PRINTED
ON CONTAINER/BAG
Batch number:
Lotnummer:

THURICIDE WP

Reg. No. L 1204 / N-AR 1888 Act/Wet No. 36 of/van 1947

IRAC INSECTICIDE GROUP CODE / IRAC INSEKODER GROEPKODE: 11A

ACTIVE INGREDIENT / AKTIEWE BESTANDEEL:*Bacillus thuriensis* var. *kurstaki* 16000 IU/mg

Registration holder / Registrasiehouer:

VILLA CROP PROTECTION (PTY) LTD.

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

PO Box / Posbus 10413, KEMPTON PARK, 1620

Tel. (011) 396 2233

CAUTION / VERSIGTIG**WARNINGS**

- Handle product with care.
- May cause eye irritation and skin sensitization.
- Store in a cool, dry, well-ventilated place away from food, feeds, drinking water and eating utensils.
- Do not expose **THURICIDE WP** to high temperatures or direct sunlight, as this may adversely affect the product.
- Keep out of reach of children, uniformed persons and animals.
- **THURICIDE WP** is non-toxic to birds, fish, mammals, honeybees and beneficial insects.

Aerial Application:

Notify all inhabitants of the area to be treated 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 guarantee that it will be effective under all conditions. The activity and effect thereof may be affected by factors such as abnormal climatic and storage conditions, quality of dilution water compatibility with other substances not indicated on the label and the occurrence of resistance of the pest against the remedy, 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 by 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 dust or spray mist.
- Wear protective clothing, suitable mask, rubber gloves and boots when mixing and applying the product.
- Do not eat, drink or smoke while applying or mixing, or before washing hands and face.
- Clean working equipment and wash clothes after use.
- Destroy empty containers and do not use for **any** other purpose. Destruction by burning should only occur in a safe and approved location. Do not inhale the smoke.
- In the case of accidental skin contact, remove contaminated clothing and wash gently with water and soap.
- In case of contact with eyes, flush eyes with clean water for at least 15 minutes.
- After accidental ingestion, immediately drink a lot of water to induce vomiting. Obtain medical advice.

RESISTANCE WARNING

THURICIDE WP is a group code 11A insecticide. Any insecticide population may contain individuals naturally resistant to **THURICIDE WP** and other group code 11A insecticides. The resistant individuals can eventually dominate the insecticide population if these insecticides are used repeatedly. These resistant insects may not be controlled by **THURICIDE WP** or any other group code 11A 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.

PRODUCT CHARACTERISTICS

- **THURICIDE WP** is a specific insect pathogen with excellent stomach action. It has no contact, vapour or translaminar activity. The delta-endotoxins are activated in the alkaline midgut of the target caterpillars and destroy the gut wall. Gut paralysis (starvation) and septicaemia follow.
- It is a biological insecticide specifically for use against the Lepidopterous larvae listed on this label. **THURICIDE WP** must be ingested by larvae to be effective. Since the product is most effective against small larvae (L1 + L2), a scouting programme to determine early infestations is recommended.
- After consuming a lethal dose of **THURICIDE WP** larvae stop feeding, usually within an hour, but may remain on the foliage until they die within several days. Affected larvae move slowly and tend to become shrivelled and discoloured before dying.

INTEGRATED PEST MANAGEMENT

- When **THURICIDE WP** is used in a spray programme, beneficial insects are allowed to build up useful populations.
- When replacing as chemical product shortly before harvest, this will result in a much alleviated residue situation.
- When used in a spray programme alternating with chemical insecticides, resistance development can be delayed.

DIRECTIONS FOR USE: Use only as directed.

Mixing Instructions:

- Half fill the spray tank with water and add the correct amount of **THURICIDE WP** while maintaining agitation.
- Fill the spray tank to the final volume required.
- Maintain agitation while application is in progress.
- Do not allow diluted spray mixture to stand for more than 12 hours. Use the mixture on the same day it was prepared.

APPLICATION TECHNIQUES

Equipment and Spray Volume:

Ensure that the equipment is properly calibrated to give even distribution at the correct volume.

- Tractor sprayers with booms and nozzles: Use hollow cone or flat fan nozzles with a pressure setting of 3 to 4 bar and volumes of 300 to 1500 litres water per hectare.
- Tractorized mistblowers: Use hollow cone nozzles and a pressure setting of 5 to 10 bar. For trellised crops use 150 to 500 litres water per hectare. The concentration of the spray mixture must be increased in accordance with the decrease in spray volume.
- Knapsack sprayers: Use hollow cone nozzles and a pressure setting of 1 to 3 bar. Always spray downwind moving the spray lance in large circles at a spray volume of 300 to 800 litres water per hectare.
- Motorized knapsack sprayers: Always run engine at full speed for best droplet formation. Keep a steady walking speed. Use at least 100 litres water per hectare. The concentration of the spray mixture must be increased in accordance with the decrease in spray volume.
- Handgun spraying: Apply 300 to 1000 litres water per hectare according to foliage density.
- For trellised tomatoes, use vertical booms to improve treatment on both sides of the row. Wet the entire plant thoroughly. Avoid excessive run-off.

Compatibility:

THURICIDE WP is not compatible with alkaline materials (spray mixture pH > 10.5). Several miticides, insecticides and adjuvants are compatible with **THURICIDE WP**, but a physical compatibility test prior to application is recommended. Tank mixtures with non-specified products are being used at own risk. Tank mixtures containing several products should be used promptly after mixing.

APPLICATION RATES

Crop / Pest	Dosage rate	Remarks
<u>Pine Plantations and Proteas</u> Pine Emperor moth larvae (<i>Imbracia cytheria</i>)	45 g / 10 ℓ water	<u>Knapsack application:</u> Apply as a cover spray to young trees and shrubs.
	500 g / ha	<u>Aerial application:</u> Apply in not less than 30 litres of water per hectare.
<u>Brusselsprouts and Cabbage</u> Diamond back moth larvae (<i>Plutella xylostella</i>)	250 g / ha	Apply in sufficient water to thoroughly wet the plants. Repeat at 7 to 10 day intervals. Refer “ REMARKS ” below.
<u>Tomatoes</u> African bollworm larvae (<i>Helicoverpa armigera</i>)	1000 g / ha	Apply as soon as the pest is noticed. Thorough coverage of the plants is essential. Repeat every 7 days. Will also suppress Semi-(Plusia) looper.
<u>Lucerne</u> Caterpillar (<i>Colias electo</i>)	250 g / ha	Apply in sufficient water, to ensure thorough coverage of the crop. Repeat after 7 to 10 days if necessary.
<u>Citrus</u> <i>Tortrix</i> leafroller & Orange Dog larvae (<i>Papilio demodocus</i>)	25 g / 100 ℓ water	Apply as a cover spray as soon as the pest is noticed. A second application 7 to 10 days later may be necessary.

REMARKS

- Treat when small, newly-hatched larvae are present and the first feeding damage is observed.
- Since **THURICIDE WP** must be ingested to obtain control, treat when larvae are actively feeding and before extensive damage occurs.
- Thorough spray coverage is essential for good control of the pest. Nozzles on ground application equipment should be arranged in such a way, as to provide the best coverage. Increased water volume and spray pressure, will improve coverage.
- To maintain control, applications may be repeated if necessary at 3 to 7 day intervals, depending on the rate of growth of the crop, weather conditions and severity of insect infestation.
- If insect infestation becomes high, increased water volume and shortened spray intervals may be necessary to achieve acceptable control.
- To improve coverage and residual effectiveness of **THURICIDE WP**, the addition of a spreader/sticker to the spray tank, is recommended.
- Do not exceed 4 successive applications.