VANTEX® 60 CS

SOUTH AFRICA Registration Number: L7227, Act 36 of 1947
Botswana Registration Number: W130254
Malawi Registration Number: MW/PCB/2018/0937
Namibia Registration Number: N-AR2119

A capsule suspension contact and stomach insecticide for agricultural use in crops as indicated.

'n Kapsule-suspensie kontak- en maag insekdoder vir landbou gebruik in gewasse soos aangedui.

INSECTICIDE GROUP **3A** **INSEKDODERGROEPKODE**

ACTIVE INGREDIENT/AKTIEWE BESTANDDEEL

Gamma-cyhalothrin (pyrethroid)..... 60 g / ℓ ..... Gamma-sihalotrin (piretroïed)

Net volume ..... ℓ ..... Netto volume

Registered by / Geregistreer deur:
FMC Chemicals (Pty) Ltd
Post Box 44
Postnet Menlyn
Waterkloof Glen
0181

For any emergency or poisoning contact:
Griffon Poison Information Centre
(24 hrs)
+27-(0)-82-446-8946

Batch Number		Lotnommer
Date of Manufacture		Vervaardigingsdatum

UN number/ VN nommer: 3082

WARNINGS:

Withholding periods: Minimum number of days between last application and harvest or feeding/grazing:

Lucerne (grazing)	8 days
Macadamias	14 days
Wine and table grapes, wheat, soybeans, and sorghum	28 days
Apples, apricots, nectarines, pears, table peaches and plums	14 days
Dry beans, maize and sweetcorn	7 days
Tomatoes, cruciferae and lupins (grazing)	2 days
Canning peaches, potatoes, peas and onions	3 days
Green beans	1 day
Wheat, soybeans, cotton, sorghum and maize (grazing)	28 days

***Warning against resistance:**

Resistance of African bollworm (*Helicoverpa armigera*) to synthetic pyrethroids has been confirmed.
COTTON : Synthetic pyrethroids must ONLY be applied to cotton during the period 1 January to 28 February.
ALL OTHER CROPS : DO NOT apply more than two applications per growing season. If a pyrethroid gives poor performance DO NOT respray with any synthetic pyrethroid, even at a corrective dosage rate. Use a product from a different chemical group.

- Handle with care.
- Harmful if swallowed, inhaled or absorbed through the skin.
- Irritating to eyes and skin and causes sensitisation by skin contact.
- Toxic to fish, other aquatic organisms, bees and wild life.
- Keep out of reach of children, uninformed persons and animals.
- Store in a cool place away from food and feedstuff.
- In case of cutworm control, do not apply when soil is dry.

Re-entry interval: Do not enter treated field until spray deposit has dried unless wearing protective clothing.
Aerial application: Notify all inhabitants in the immediate vicinity of the area to be treated and issue the necessary warnings. Do not spray over or allow drift to contaminate water or 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, compatibility with other substances not indicated on the label and the occurrence of resistance of the pest to 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 or registration holder in the event of any uncertainty.

PRECAUTIONS:

- Wear a face shield and rubber gloves when handling the concentrate.
- Avoid skin contact by, and inhalation of the spray mist.
- Avoid contact with eyes.
- After accidental skin contact, DO NOT start with flushing with water. Wipe off with dry cloth or using talcum powder then wash with soap and water and apply fatty oil or cream.
- Wash overalls daily.
- Do not eat, drink or smoke while using, or before having washed hands and face.
- Prevent drift of spray mist onto other crops, grazing, rivers, dams and areas not under treatment.
- Clean applicator after use and dispose of wash water where it will not contaminate crops, grazing, rivers or dams.
- Prevent contamination of food, feed, drinking water and eating utensils.
- 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 prescribed manner.
- Destroy empty container by perforation and flattening and bury away from water courses.
- Do not re-use for any other purpose.
- Wash after handling.

Resistance warning:

For resistance management, VANTEX® 60 CS is a group code 3A insecticide. Any insect population may contain individuals naturally resistant to VANTEX® 60 CS and other group code 3A insecticides. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by VANTEX® 60 CS or any other group code 3A 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 the control methods (chemical, cultural, biological) into insect control programmes.

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

DIRECTIONS FOR USE: Use only as indicated

Mixing instructions:

Half fill the spray tank with clean water. Measure out the required quantity of VANTEX® 60 CS and pre-mix this with at least 10 ℓ water. Add this to the spray tank while agitating the mixture. Fill the spray tank while maintaining agitation to ensure thorough mixing of the spray mixture before spraying commences. Maintain agitation during the whole spraying operation.

Compatibility:

Do not mix with seaweed extract.

Ground application:

It is necessary to fit equipment with hollow cone nozzles that give medium to fine droplets when using a conventional high volume sprayer. Calibrate the equipment before use and ensure correct application. The spray mixture must be evenly distributed over the target area. All spray applications must be made with suitable equipment that is in good working order and correctly calibrated to give the desired coverage for that particular method of application.

AERIAL APPLICATION:

Aerial application of VANTEX® 60 CS may only be done by a registered aerial application operator using a registered and correctly calibrated 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 ℓ 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 cm^2 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 atomizing 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 atomizers 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:
  - 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 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.

Prepared spray mixture must not be left in the spray tank for any length of time e.g. overnight. The addition of molasses has an acidifying effect and reduces evaporation of the spray mist. For ground application add 10 % molasses by volume and 20 % for aerial application.

The efficacy of VANTEX® 60 CS may be reduced by a high pH value of the spray mixture. VANTEX® 60 CS is more stable at pH values of 4. If an acidifyer is used to lower the pH, it should be mixed with the water first, before adding the VANTEX® 60 CS.

APPLICATION RATES:

CROP AND PEST	mℓ/100ℓ WATER	Dosage / ha or as indicated	REMARKS
TOMATOES African bollworm (*Helicoverpa armigera*) and Semi-looper (*Chrysodexis acuta*)	3,5		**Ground application:** Apply as a full cover spray at the first signs of infestation. Repeat the application at 7 - 10 day intervals or as directed by inspection of the crop. Apply 500 - 1 000 ℓ spray mixture / ha. Use lower spray volume of 500 ℓ / ha for plants smaller than 1 m and higher spray volume for taller plants. See "Warnings" - Warning against resistance.
POTATOES Tuber moth larva (*Phthorimaea operculella*) and African bollworm (*Helicoverpa armigera*)		50 mℓ 55 mℓ	**Ground application:** Apply in 250 - 500 ℓ water / ha depending on plant size. Start spraying when plants are one month old or earlier if an infestation should occur. Apply every 10 - 14 days and ridge at least twice during the growing season. **Aerial application:** Apply in at least 30 ℓ water / ha. Start spraying as soon as plants are one month old or earlier if an infestation should occur. Repeat application every 10 - 14 days and ridge at least twice during the growing season. See "Warnings" - warning against resistance.

APPLES AND PEARS Banded fruit weevil (Snout beetle) (*Phlyctinus callosus*)	8,5	208 - 292 mℓ	HV: Apply 2 500 - 3 500 ℓ spray mixture / ha. Apply two sprays: The first at 75 % petal fall and the second four weeks later. A third spray can be applied around middle January to prevent late season damage. Initially this treatment will also suppress or control low Red spider mite populations.
Codling moth (*Cydia pomonella*)	4,5	104 - 142 mℓ	High volume - Apply the first spray at 75 % petal fall. Repeat every 14 - 18 days.
African bollworm (*Helicoverpa armigera*)	4,5	104 - 142 mℓ	Apply at the first signs of infestation, repeat if necessary. The sprays carried out for weevil and codling moth will normally control this pest. See "Warnings" - Warning against resistance.
GRAPE VINES Weevils (Snout beetles) (*Phlyctinus callosus, Eremnus setulosus, Eremnus cerealis*)	8	83 mℓ	**Foliar Application:** HV: 1000 ℓ spray mixture / ha. Apply as a full cover application ensuring thorough coverage of all parts of the plant. Apply first spray when the first signs of movement and/or feeding of weevils is detected. Repeat within 21 - 28 days as necessary. The first occurrence of weevils varies from area to area but can be expected from mid-October to mid-November. **Stem treatment:** Apply as a preventive stem application immediately once weevil activity is noticed on the stem. Monitoring for weevil must start in October and be continued the whole growing season. A spray volume of 1000 ℓ / ha (± 0,5 ℓ / plant) must be used. Apply up to a height of 1 m. Low growing vines to be applied up to first lateral branches. The stems are to be thoroughly wetted and excess spray mixture allowed to run onto the soil surrounding the stem. Repeat application if necessary 3 - 4 weeks later. Where a dense canopy is present and weevils seek refuge in the canopy, not returning back to the stem during the day, carry out a foliar application. Before application ensure an infestation is present in foliage.
PEACHES including NECTARINES, PLUMS, TABLE PEACHES, CANNING PEACHES AND APRICOTS African bollworm (*Helicoverpa armigera*)	4,5	104 - 142 mℓ	Full cover corrective application at 75 % petal drop or when pest is noticed. See "Warnings" - Warning against resistance.
Banded fruit weevil (Snout beetle) (*Phlyctinus callosus*)	8	208 - 292 mℓ	Apply as soon as damage is noticed. Repeat 3 - 4 weeks later if necessary. This treatment will also suppress or control low populations of Red spider mite.

CROP AND PEST	mℓ / 100 ℓ WATER	Dosage / ha or as indicated	REMARKS
DRY BEANS, GROUNDNUTS AND GREEN BEANS African bollworm (*Helicoverpa armigera*)			Commence application as soon as eggs or larvae are noticed on plants. Repeat the application at 14 day intervals or as directed by inspection of the crop.
		42 mℓ	**Ground application:** Apply in 250 - 500 ℓ water / ha depending on plant size. Scout fields at 7 day intervals from time of flowering and start spraying when infestation is noticed. Larvae should not be larger than 1 cm in length for optimum control. Scout field every 7 days or 3 days after rain. Repeat application if necessary.
		42 mℓ	**Aerial application:** Apply in 30 ℓ water / ha. See "Warnings" - warning against resistance.
SOYBEANS African bollworm (*Helicoverpa armigera*)		50 mℓ	**Ground application:** Ensure good coverage of the plants by applying in 200 - 300 ℓ water / ha. Start application as soon as an infestation is noticed and repeat as necessary.
		50 mℓ	**Aerial application**: Apply in 30 ℓ water / ha. Start application as soon as infestation is noticed and repeat as necessary. See "Warnings" - warning against resistance.
LUPINS African bollworm (*Helicoverpa armigera*)		46 - 50 mℓ	**Ground application**: Apply in at least 300 ℓ water / ha. Start application as soon as scouting shows 1 - 2 larvae / m². Application must be made before the larvae penetrate the pods. The lower dosage rate may be used on young plants, increase dosage rate as plants grow.
		50 mℓ	**Aerial application**: Apply in 30 ℓ water / ha. Apply as explained above. See "Warnings" - Warning against resistance.
PEAS including MANGE TOUT African bollworm (*Helicoverpa armigera*)		42 mℓ	**Ground application**: Apply in not less than 200 ℓ water / ha. Start application at flowering when the infestation of bollworm larvae is at 2 bollworms / 20 plants. If a re-infestation occurs, a follow up application may be necessary.
		50 mℓ	**Pivot application**: Start application when the infestation of bollworm eggs are at a level of 6 eggs / 24 plants or the larvae at 2 larvae / 24 plants. A correctly calibrated injector on the pivot line must be used. Pivot speed to be at 100 %. See "Warnings" warning against resistance.

LUCERNE Caterpillar (*Colias electo*)		33 - 42 mℓ	Ground application: Full cover spray in 250 - 500 ℓ water / ha depending on plant height. Ensure thorough wetting. Use lower dosage rate on less dense stand of lucerne. For optimum control larvae should be sprayed before they reach the length of 1 cm. Follow-up applications may be necessary based on scouting.
CRUCIFERAE African bollworm (*Helicoverpa armigera*) and Caterpillars of the Diamond back moth (*Plutella xylostella*)	3,5		Ensure good wetting of the plant by adding a wetting agent. Commence spraying at the first signs of the pest and repeat sprays at 10 - 14 day intervals. Apply 500 - 1000 ℓ spray mixture / ha. See "Warnings" - warning against resistance.
MAIZE, SWEET CORN AND LUCERNE African bollworm (*Helicoverpa armigera*) Pink stalkborer (*Sesamia calamistis*)		42 mℓ 0,4 mℓ / 100 m row	**Ground application**: Apply in 250 - 500 ℓ water / ha depending on plant size. Scout fields at 7 day intervals from time of flowering and start spraying when infestation is noticed. Larvae should not be larger than 1 cm in length. Scout every 3 days after rain and spray if necessary. See "Warnings" - Warning against resistance. **Ground application**: Sweetcorn: Apply directly into funnel. Start spraying 2 weeks after planting and repeat at 10 - 14 day intervals until the ears appear. Use in not less than 3 ℓ water / 100 m row.

CROP AND PEST	mℓ / 100 ℓ WATER	Dosage / ha or as indicated	REMARKS
MAIZE Maize stalkborer (*Busseola fusca*) (First and second generation)		0,5 mℓ / 100 m row OR 50 mℓ	Treat before larvae enter stalks. Apply up to the stage when tassels are enclosed by the flag leaf. **Ground application**: The first application must be made when 10 % of the plants show shothole damage. Apply in 3 ℓ water / 100 m row. The spray must be directed into the funnel. When larvae are longer than 10 mm or a re-infestation occurs a second application may be necessary within 10 - 12 days after the first application.

MAIZE Maize stalkborer (*Busseola fusca*) (First and second generation)		50 mℓ	**Aerial application**: Apply in 30 ℓ water / ha as an early corrective application when 10 % of the plants show shot hole damage. When larvae are longer than 10 mm or a re-infestation occurs a second application may be necessary within 10 - 12 days after the first application.
Chilo stalkborer (*Chilo partellus*)		0,5 mℓ / 100 m row	**Ground application**: See remarks for stalk borer control above.
ONIONS Thrips (*Thrips tabaci*)		33 - 50 mℓ	Start applying when the first signs of damage is noticed on the leaves. Apply in a spray programme every 10 - 14 days. The lower dosage rate can be used if thrips counts are below 0,6 thrips per plant (6 per 10 plants). Follow up applications with higher dosage rate 10 - 14 days later. Do not use on spring onions.
SORGHUM African bollworm (*Helicoverpa armigera*)		42 mℓ	**Ground application:** Direct application onto ears. Apply in 300 - 500 ℓ water / ha. Start application as soon as infestation is present. Follow up if necessary.
		42 mℓ	**Aerial application:** Apply in 30 ℓ water / ha. Apply when pest is noticed. If bollworm are concealed in the ear, control may be less effective. Later infestations may require a second application. See "Warnings" - warning against resistance.
Stalkborer (*Busseola fusca*)		0,4 mℓ / 100 m row	**Ground application**: Apply in funnel when 5 % of plants show shothole damage and larvae have not yet entered stalks. Apply in 3 ℓ water/100 m and direct spray into the funnel. Will also control *Chilo partellus* if present at time of application.
		42 mℓ	**Aerial application:** Apply in 30 ℓ water / ha.
ALL CROPS Cutworm (*Agrotis spp*.)			Soil must be well-prepared - free of clods and excessive plant debris. Apply pre- or post-emergence. Apply ONLY if the top 3 cm of soil is moist. Where high cutworm populations is expected (minimum tillage), monitor infestations for follow-up applications.

ALL CROPS (continue) Cutworm (*Agrotis spp*.)		0,1 mℓ / 100 m row 30 mℓ 30 mℓ 0,1 mℓ / 100 m 30 mℓ 30 mℓ	<u>Preventive application (pre-emergence):</u> **Ground application**: Row treatment: Apply in at least 3 ℓ water / 100 m in a 30 cm wide band over row. **Overall application**: Apply in 300 ℓ water / ha. **Aerial application**: Apply in 30 ℓ water / ha. <u>Corrective application (post-emergence):</u> **Ground application** Row treatment: Apply in at least 3 ℓ water / 100 m in a 30 cm wide band over the row. **Overall application:** Apply in 300 ℓ water / ha. **Aerial application:** Apply in 30 ℓ water / ha.
MACADAMIAS Stink bug (*Nezara viridula*)	4,2		Apply as high volume full cover spray. Application timing is based on stinkbug numbers. Scouting for stinkbug is done according to the tree shake method. Start monitoring stinkbug numbers two weeks after flowering. Apply when an average of 1,8 stinkbugs are counted per tree (18 per 10 trees). Up to 6 applications made at 4 weekly intervals may be needed per season.

CROP AND PEST	mℓ / 100 ℓ WATER	Dosage / ha or as indicated	REMARKS
COTTON All bollworms, i.e. African Bollworm (*Helicoverpa armigera*), Red (*Diparopsis castanea*) and Spiny (*Earias spp*.) bollworms as well as Stainers (*Dysdercus spp.*)		Plants smaller than 60 cm: 25 mℓ Plants taller than 60 cm: 50 mℓ Plants smaller than 60 cm 0,3 mℓ / 100 m row Plants taller than 60 cm 0,6 mℓ / 100 m row 28 - 56 mℓ	**Ground application:** With boom and nozzles. Ensure thorough coverage of the plants. For plants smaller than 60 cm apply in 100 ℓ water / ha. For taller plants increase the volume of water to 200 ℓ / ha for mature cotton. Do not use less than 50 mℓ VANTEX® 60 CS / ha on mature cotton. **Tramline treatment:** Use in 50 ℓ water / ha on cotton less than 60 cm and 100 ℓ water / ha on plants taller than 60 cm (see "tramlines" below). **Aerial application:** Apply in 30 ℓ water / ha. Use lower dosage for plants up to 60 cm, and higher rate for plants taller than 60 cm.
COTTON (Continue) All bollworms, i.e. African Bollworm (*Helicoverpa*		Plants smaller than 60 cm 0,3 mℓ / 100 m row Plants taller than 60 cm 0,6 mℓ / 100 m row	**Tramlines - Cotton**: Dosage recommendation is per single row. (Therefore 1 tramline = 2 rows). Mount at least 5 hollow cone nozzles over tramlines so that one nozzle sprays directly over the top of each row, one in between and another on the outside of each of

armigera), Red (*Diparopsis castanea*) and Spiny (*Earias spp*.) bollworms as well as Stainers (*Dysdercus spp.*)			the two rows. For best coverage the two outer nozzles should be mounted on drop-arms pointing 45° upwards. 1 m row spacing = 10 000 running m / ha.
COTTON (Continue) All bollworms, i.e. African Bollworm (*Helicoverpa armigera*), Red (*Diparopsis castanea*) and Spiny (*Earias spp*.) bollworms as well as Stainers (*Dysdercus spp.*)		28 - 56 mℓ	See Warning against resistance under 'WARNINGS' above. In order to comply with the principles of pest management and integrated control measures, VANTEX® 60 CS is intended to be used during the period from peak flowering until boll split, i.e. approximately 10 - 22 weeks after plant emergence. VANTEX® 60 CS is primary intended for use as a preventive control measure against all bollworm larvae based on weekly scouting, or a regular spray programme applied at 7 day intervals. Normally a bollworm spray programme will commence at the beginning of flowering, i.e. about 6 weeks after emergence. From then until peak flowering use registered non pyrethroid remedies. (Cotton older than 12 weeks after plant emergence is considered mature.) VANTEX® 60 CS should be applied on the basis of regular weekly scouting. When more than 5 American bollworm and 2 red or Spiny bollworm larvae are found / 24 plants / 15 ha during scouting, an application has to be made. The success of the application depends on the coverage and penetration achieved by the spray application. Larvae already inside the bolls may not be controlled successfully. Allow 4 days to achieve maximum effect of the spray. Scout and repeat the application if necessary. Scouting should be done at weekly intervals from flowering until boll splits. Stainers will be controlled during regular applications for control of bollworm.
WHEAT African bollworm (*Helicoverpa armigera*)		42 mℓ	Apply as a full cover spray as soon as pest appears and ensure adequate wetting of ears. Repeat after 10 - 14 days depending on level of infestation. Ground and aerial application in 250 - 500 ℓ and 30 ℓ water / ha respectively. See warning against resistance under "Warnings" above.