



READ SAFETY DIRECTIONS BEFORE OPENING OR USING

ACTIVE CONSTITUENT:

600 g/L CHLORANTRANILIPROLE

GROUP 28 INSECTICIDE

CONTENTS:

1 L - 200 L



For the control of Lepidopteran species of insect pests in Cotton and Pulse crops, as per the Directions for Use.

SAFETY DIRECTIONS

May irritate eyes, avoid contact with eyes. When using together with other products, consult their label safety directions. Wash hands after use.

FIRST AID

First aid is not generally required. If in doubt, contact a Poisons Information Centre (phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SAFETY DATA SHEET

Additional information is listed in the Safety Data Sheet that can be obtained from www.fmccrop.com.au

GENERAL INSTRUCTIONS

Vantacor® insecticide is an anthranilic diamide insecticide in the form of a suspension concentrate. Vantacor® is particularly active on Lepidopteran insect pests, primarily as a larvicide.

Vantacor® should be applied after careful field monitoring of pest populations of eggs and larvae to determine the need for application, the correct timing of the initial application and of any subsequent applications. Subsequent applications are dependent on economic thresholds, as well as the growth rate of new unprotected plant material.

For *Helicoverpa* species, spray applications should be timed to coincide with egg hatching and before larvae are entrenched in protected feeding sites.

Vantacor® has been specifically designed for use in Integrated Pest Management (IPM) schemes. Vantacor® does not give traditional larval “knockdown” control. Vantacor® enters larvae primarily by ingestion of treated foliage, or through penetration of the insect cuticle. **After ingesting Vantacor®, the larvae cease feeding and die four to five days later.** Vantacor® insecticide provides square, flower and boll protection in cotton, and flower and pod protection in pulse crops.

INSECTICIDE RESISTANCE WARNING

GROUP 28 INSECTICIDE

For insecticide resistance management, Vantacor® insecticide is a Group 28 insecticide. Some naturally occurring insect biotypes resistant to Vantacor® insecticide and other Group 28 insecticides may exist through normal

genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if Vantacor® insecticide and other Group 28 insecticides are used repeatedly. The effectiveness of Vantacor® insecticide on resistant individuals could be significantly reduced. Since the occurrence of resistant individuals is difficult to detect prior to use. FMC accepts no liability for any losses that may result from the failure of Vantacor® insecticide to control resistant insects.

Strategies to minimise the risk of insecticide resistance are available. To help prevent the development of resistance to Vantacor® insecticide observe the following instructions:

- Use Vantacor® insecticide in accordance with the current Insecticide Resistance Management (IRM) strategy for your region.
- Apply Vantacor® insecticide or other Group 28 insecticides using a “window” approach to avoid exposure of consecutive insect pest generations to the same mode of action. Multiple successive applications of Vantacor® insecticide or other Group 28 insecticides are acceptable if they are used to treat a single insect generation.
- Following a “window” of Vantacor® insecticide or other Group 28 insecticides, rotate to a “window” of applications of effective insecticides with a different mode of action.
- The total exposure period of all “Group 28-active windows” applied throughout the crop cycle (from seedling to harvest) should not exceed 50% of the crop cycle.
- Incorporate IPM techniques into the overall pest management program.

- Monitor insect populations for loss of field efficacy.
- Cultivate all cotton and pulse crop fields as soon as possible after picking/harvest to destroy over-wintering pupae of *Helicoverpa armigera*.

For further information contact your farm chemical supplier, consultant, local Department of Agriculture or Primary Industries, or local FMC Representative.

For additional information on insect resistance, modes of action and monitoring visit the Insecticide Resistance Action Committee (IRAC) on the web at <http://www.irac-online.org>

MIXING

Fill spray tank to ¼ to ½ full of water. Measure the amount of Vantacor® required for the area to be sprayed. Add Vantacor® directly to the spray tank with the agitation engaged. Mix thoroughly to disperse the insecticide. Once dispersed, the material must be kept in suspension at all times by continuous agitation. Use mechanical or hydraulic means. **DO NOT** use air agitation, premix or slurry.

If spray solution is left standing, ensure thorough re-agitation of the spray mix until fully resuspended. **DO NOT** allow spray mix to sit overnight, as re-suspension may be difficult.

SURFACTANTS

Use a non-ionic surfactant/wetting agent at 125 g active/100 L, (e.g. BS1000* @ 125 mL/100 L).

DO NOT add a non-ionic surfactant/wetting agent if:

- mixing with another product which already contains a surfactant and/or the product label advises not to add a surfactant.
- mixing with a liquid fertiliser

COMPATIBILITY

Vantacor® insecticide is compatible with many commonly used fungicides, liquid fertilisers, herbicides, insecticides, and biological control products. However, since the formulations of products are always changing, it is advisable to test the physical compatibility of desired tank mixes and check for adverse effects like settling out or flocculation. To determine the physical compatibility, add the recommended proportions of the tank mix products to water, mix thoroughly and allow to stand for 20 minutes. If the combination remains mixed, or can be re-mixed readily, it is considered physically compatible. Avoid complex tank mixtures of several products or very concentrated spray mixtures.

The crop safety of all potential tank-mixes, including additives and other pesticides, on all crops under all environmental conditions has not been fully tested. Before applying any tank-mixture not specifically recommended on this label or other FMC supplemental labelling, the safety to the target crop must be confirmed. To test for crop safety, apply the combination to a small area of the target crop in accordance with the label instructions to ensure that a phytotoxic response will not occur.

Vantacor® is compatible with Ovasyn* (amitraz) and Pix* (mepiquat chloride). Vantacor® is not compatible with Ultra Low Volume (ULV) formulations.

The mixing sequence recommended is: water soluble bags, dry flowable or water dispersible granules, wettable powders, water-based suspension concentrates

(Vantacor®), water-soluble concentrates, suspo-emulsions, oil based suspension concentrates, emulsifiable concentrates, adjuvants and surfactants, soluble fertilisers and drift retardants.

APPLICATION

Application equipment should be calibrated to apply at least sixty (60) droplets per cm² of target foliage. Droplet VMD should be of MEDIUM spray quality.

Ground application

Apply as a *blanket* spray or as a *banded* spray. Ensure thorough spray coverage on the foliage, using appropriate fan nozzles. Apply in a minimum spray volume of 100 L/ha and keep the boom low to avoid spray drift. A minimum spray pressure of 275 kPa (40 psi) should be used with fan nozzles applying insecticides. **Higher pressure reduces droplet size, DOES NOT improve canopy penetration and may increase drift potential.** WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE. For band spraying, increase the number of fan nozzles per crop row as the plant size increases.

Aerial application

Vantacor® must only be applied with aircraft fitted with accurately calibrated equipment. Apply a minimum total spray volume of 30 L/ha with nozzles (e.g. Micronaire rotary atomisers, CP nozzles or conventional hydraulic nozzles) capable of producing medium spray quality droplets. A spray drift minimisation strategy, should be employed at all times when applying this product. **DO NOT apply Vantacor® using Ultra Low Volume (ULV) methods.**

Minimising Spray Drift

The most effective drift management strategy is to apply the largest droplets which are consistent with pest control objectives. Coarser droplet size spectra have larger volume mean diameters (VMD's) and lower drift potential.

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator must consider all these factors when making application decisions.

Refer to the Spray Drift Restraints.

Spray Equipment Cleanout

Prior to application, start with clean, well-maintained application equipment. Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits which might become difficult to remove. Drain spray equipment. Thoroughly rinse sprayer and flush hoses, boom, and nozzles with clean water.

Clean all other associated application equipment. Take all necessary safety precautions when cleaning equipment.

DO NOT clean near wells, water sources or desirable vegetation. Dispose of waste rinse water in accordance with local regulations.

PRECAUTION

DO NOT use human flaggers/markers unless they are protected by engineering controls such as vehicles with enclosed cabs.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS:

DO NOT apply under weather conditions, or from spraying equipment, that may cause spray to drift onto near-by non-target plants/crops, cropping lands or pastures.

IMPORTANT: Not all crops within a crop group, and not all varieties, cultivars or hybrids of crops, have been individually tested for crop safety. To test for crop safety, apply the product in accordance with the label instructions to a small area of the target crop to ensure that a phytotoxic response will not occur, especially where the application is a new use of the product by the applicator.

PROTECTION OF HONEY BEES AND OTHER INSECT POLLINATORS

Based on Good Agricultural Practices (GAP), Vantacor® should not be applied when bees are actively foraging.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Dangerous to aquatic invertebrates. Drift and run off from treated areas may be hazardous to aquatic organisms in neighbouring areas. **DO NOT** contaminate streams, rivers or waterways with the chemical or used containers.

STORAGE AND DISPOSAL

KEEP OUT OF REACH OF CHILDREN. Store in the closed, original container in a dry, well-ventilated area, as cool as possible out of direct sunlight.

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. **DO NOT** dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots.

Empty containers and product should **NOT** be burnt.

DIRECTIONS FOR USE

RESTRAINTS:

DO NOT apply if heavy dew is present on crops, or if rainfall is expected within 2 hours of application.

DO NOT make more than 3 applications per Cotton crop per season, and no more than 2 consecutive sprays per field per season.

DO NOT make more than 2 applications per Pulse crops per season. Applications must be a minimum of 7 days apart.

SPRAY DRIFT RESTRAINTS

Specific definitions for terms used in this section of the label can be found at www.apvma.gov.au/spraydrift

DO NOT allow bystanders to come into contact with the spray cloud.

DO NOT apply in a manner that may cause an unacceptable impact to native vegetation, agricultural crops, landscaped gardens and aquaculture production, or cause contamination of plant or livestock commodities, outside the application site from spray drift. The buffer zones in the relevant buffer zone table/s below provide guidance but may not be sufficient in all situations. Wherever possible, correctly use application equipment designed to reduce spray drift and apply when the wind direction is away from these sensitive areas.

DO NOT apply unless the wind speed is between 3 and 20 kilometres per hour at the application site during the time of application.

DO NOT apply if there are hazardous surface temperature inversion conditions present at the application site during the time of application. Surface temperature inversion conditions exist most evenings one to two hours before sunset and persist until one to two hours after sunrise.

DO NOT apply by a boom sprayer unless the following requirements are met:

- spray droplets not smaller than a **Medium** spray droplet size category
- minimum distances between the application site and downwind aquatic areas (see 'Mandatory Buffer Zones' in Table 1) are observed.

Buffer Zones for Boom Sprayers

Table 1: Mandatory Buffer Zone for protection of the aquatic environment

Application Rate	Mandatory Downwind Buffer Zone
Up to 90 mL/ha	20 metres

DO NOT apply by aircraft unless the following requirements are met:

- spray droplets not smaller than a **Medium** spray droplet size category
- for release heights 25% of wingspan or 25% of rotor diameter or lower above the target canopy, minimum distances between the application site and downwind aquatic areas (see 'Mandatory Buffer Zones' in Table 2) are observed.

Buffer Zones for Aircraft

Table 2: Mandatory Buffer Zone for protection of the aquatic environment

Application Rate	Wind speed conditions	Mandatory Downwind Buffer Zone
Up to 90 mL/ha	3 - 8 km/h	100 metres
	8 - 14 km/h	200 metres
	15 - 20 km/h	400 metres

For use in all States where appropriate for the crop and/or insect pest.

CROP	PEST	RATE	WHP	CRITICAL COMMENTS
Cotton	Cotton bollworm (<i>Helicoverpa armigera</i>) Native budworm (<i>Helicoverpa punctigera</i>) Cluster caterpillar (<i>Spodoptera litura</i>)	55 or 90 mL + non ionic surfactant @ 125 gai/100 L	28 days	Target brown eggs and hatchling (neonates or 1 st instar) to small larvae (2 nd instar) when they reach the economic spray threshold and before they become entrenched in squares, flowers and bolls. Use the low rate on threshold larvae pressure (2 larvae per metre row) and low egg pressure. Use the high rate with high egg and/or larvae pressure (where potential for >2 larvae per metre row produced) and so as to achieve longer residual control of <i>Helicoverpa</i> spp.
	Northern rough bollworm (<i>Earias vittella</i>) Rough bollworm (<i>Earias huegeliana</i>)	90 mL + non ionic surfactant @ 125 gai/100 L		Target eggs and hatchling (neonates or 1st instar) to small larvae (2nd instar) when they reach the economic spray threshold and before they become entrenched in terminals or bolls.
Chickpea	Cotton bollworm (<i>Helicoverpa armigera</i>) Native budworm (<i>Helicoverpa punctigera</i>)	40 mL + non-ionic surfactant @ 125 gai/100 L	14 days	A maximum of two applications are to be applied to any one crop per season. Further treatments should be made with alternative mode of action insecticides. Regularly scout crops to monitor for larvae. Target sprays against larvae. Apply as larvae reach threshold numbers. Larvae in entrenched feeding sites will not be controlled. Use enough water to ensure thorough coverage of the crop. Target a minimum of 100 L/ha by ground rig and a minimum of 30 L/ha by aircraft. Use in accordance with Crop Life Insecticide Resistance Management Strategy guidelines.
Mung bean, Soybean	Bean podborer (<i>Maruca vitrata</i>) Cotton bollworm (<i>Helicoverpa armigera</i>) Native budworm (<i>Helicoverpa punctigera</i>) Soybean looper (<i>Thysanoplusia orichalcea</i>) Bean looper (<i>Mocis alterna</i>) Irrorated tabby (<i>Anticarsia irrorata</i>)			
Winter pulse crops (except Chickpea) including; Faba/Broad bean, Field pea, Lentil, Lupin, Vetch	Cotton bollworm (<i>Helicoverpa armigera</i>) Native budworm (<i>Helicoverpa punctigera</i>)	40 mL + non-ionic surfactant @ 125 gai/100 L		Target brown eggs and hatchlings (neonates or first instar) to small larvae (second instar) when they reach the economic spray threshold and before they become entrenched in flowers or pods.
Summer pulse crops (except Mung bean and Soybean) including; Azuki/Adzuki bean, Cow pea, Navy bean, Pigeon pea	Bean podborer (<i>Maruca vitrata</i>) Cotton bollworm (<i>Helicoverpa armigera</i>) Native budworm (<i>Helicoverpa punctigera</i>) Soybean looper (<i>Thysanoplusia orichalcea</i>) Bean looper (<i>Mocis alterna</i>) Irrorated tabby (<i>Anticarsia irrorata</i>)			

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.

WITHHOLDING PERIODS

HARVEST

COTTON: **DO NOT** HARVEST FOR 28 DAYS AFTER APPLICATION

PULSE CROPS: DO NOT HARVEST FOR 14 DAYS AFTER APPLICATION

GRAZING

COTTON: **DO NOT** ALLOW LIVESTOCK TO GRAZE CROPS, COTTON STUBBLE OR GIN TRASH TREATED WITH VANTACOR® INSECTICIDE

PULSE CROPS: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 14 DAYS AFTER APPLICATION

EXPORT STATEMENT:

Import tolerances for produce treated with Vantacor® insecticide may be pending in some countries. Consult with your exporter or FMC before applying Vantacor® to export crops.

NOTICE TO BUYER

To the extent permitted by the Competition and Consumer Act (2010) or any relevant legislation of any State or Territory (the "Legislation") all conditions and warranties and statutory or other rights of action, whether arising in contract or tort or whether due to the negligence of FMC or Seller, which buyer or any other user may have against FMC or Seller are hereby excluded provided however that any rights of the buyer pursuant to non-excludable conditions or warranties of the Legislation are expressly preserved. FMC hereby gives notice to buyer and other users that to the extent permitted by the Legislation it will not accept responsibility for any indirect or consequential loss of whatsoever nature arising from the storage, handling or use of this product. Where permitted by the Legislation FMC's liability shall in all circumstances be limited to the replacement of the product, or a refund of the purchase price paid therefor.

The product must be used and applied strictly in accordance with the label instructions and other directions for use. It is impossible to eliminate all risks associated with the use of this product. Such risks may arise from factors such as weather conditions, soil factors, off target movement, unconventional technique, presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of FMC or the Seller. Buyer accepts these risks.

IN A MEDICAL EMERGENCY CALL 1800 033 111 ALL HOURS

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