

Product Name: EXIREL INSECTICIDE
APVMA Approval No: 64103/137281



Label Name:	EXIREL INSECTICIDE
Signal Headings:	CAUTION KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
Constituent Statements:	100 g/L CYANTRANILIPROLE
Mode of Action:	GROUP 28 INSECTICIDE
Statement of Claims:	For the control of certain insect pests in Canola, Citrus, Cotton and Forage brassicas as per the Directions for Use
Net Contents:	1 - 10 L
Restraints:	This section contains file attachment.
Directions for Use:	This section contains file attachment.
Other Limitations:	
Withholding Periods:	HARVEST CITRUS: Nil. COTTON: DO NOT HARVEST FOR 14 DAYS AFTER APPLICATION.

CANOLA: DO NOT HARVEST FOR 21 DAYS AFTER APPLICATION.

GRAZING

CANOLA AND FORAGE BRASSICAS: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 14 DAYS AFTER APPLICATION.

CITRUS: DO NOT GRAZE TREATED AREA OR CUT FOR STOCKFEED

COTTON: DO NOT ALLOW LIVESTOCK TO GRAZE CROPS, COTTON STUBBLE OR GIN TRASH TREATED WITH EXIREL INSECTICIDE.

Trade Advice:

EXPORT OF TREATED PRODUCE: Suitable Maximum Residue Limits (MRLs) or import tolerances for produce treated with Exirel insecticide may not be established in some countries. Consult with your exporter or FMC before applying Exirel insecticide to crops from which produce is to be exported.

LIVESTOCK DESTINED FOR EXPORT MARKETS

The grazing withholding period only applies to stock slaughtered for the domestic market. Some export markets apply different standards. To meet these standards, ensure that in addition to complying with the grazing withholding period, the export slaughter interval is observed before stock are sold or slaughtered.

EXPORT SLAUGHTER INTERVAL (ESI) 2 DAYS

Livestock that has grazed on or been fed treated crops should be placed on clean feed for 2 days prior to slaughter.

General Instructions:

GENERAL INSTRUCTIONS

Exirel insecticide is an anthranilic diamide insecticide in the form of an oil in water emulsion, and is to be mixed with water and applied as a foliar spray. Exirel is particularly active on both sucking and chewing (Lepidopteran and Coleopteran) insect pests.

Before application monitor insect populations to determine whether or not there is a need for application of Exirel insecticide based on locally determined economic thresholds. More than one treatment of Exirel insecticide may be required to control a population of pests.

For *Helicoverpa* species, spray applications should be timed with egg hatching and before larvae are entrenched in protected feeding sites. Exirel insecticide primarily intoxicates insect pests via ingestion, but may also have some minimal contact activity. Exposure of the pest species typically results in rapid feeding cessation within a few hours of exposure. However, the time to death and economic levels of population control may be 3 to 6 days depending upon the species.

INTEGRATED PEST MANAGEMENT

Citrus

Not compatible with integrated pest management (IPM) programs utilising beneficial arthropods. Minimise spray drift to reduce harmful effects on beneficial arthropods in noncrop areas.

Cotton

Application of Exirel according to this label is expected to be safe to predatory mites, spiders and lacewings, but may have adverse effects on parasitoid wasps, ladybird beetles and rove beetles in the treated field and parasitoid wasps in downwind areas reached by spray drift.

Forage brassicas

Application of Exirel may harm parasitoid wasps in treated fields and in downwind areas reached by spray drift.

MIXING

Spray equipment must be clean and free of previous pesticide deposits before applying Exirel insecticide. Fill spray tank to 1/4 to 1/2 full of water. Shake the container well immediately before decanting. Measure the amount of Exirel required for the area to be sprayed. Add Exirel directly to the spray tank with the agitation engaged. Mix thoroughly to disperse the insecticide. Top up the tank with clean water to the required volume. 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 resuspension may be difficult.

SURFACTANT/WETTING AGENT

Canola and Cotton

Use an ethylated seed oil at 0.5% v/v to a maximum of 1 L/ha.

Citrus

Addition of an adjuvant is NOT required.

Forage brassicas

Option of using either an ethylated seed oil at 0.5% v/v to a maximum of 1 L/ha or a non-ionic surfactant at highest rate recommended for hard to wet crops.

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.

ACIDIFICATION OF THE SPRAY TANK

If the pH of the spray tank after all products have been added and mixed is above pH 8, adjust to pH 8 or less using a registered acidifying agent. If the spray tank pH is 8 or less no adjustment of the spray tank pH is necessary. Spray tanks of pH 8 or less can be held for up to 8 hours before spraying. DO NOT store the spray mixture overnight in the spray tank.

COMPATIBILITY

Exirel 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 has not been 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. The mixing sequence recommended is: water soluble bags, dry flowable or water dispersible granules, wettable powders, water-based suspension concentrates, water soluble concentrates, suspo-emulsions (Exirel), oil-based suspension concentrates, emulsifiable concentrates, adjuvants and surfactants, soluble fertilisers and drift retardants.

APPLICATION

Use enough water to ensure thorough coverage of the crop. Adjust water volumes to crop stage. Droplet VMD should be of MEDIUM spray quality.

Cotton, Forage brassicas:

Ground application

Apply as a blanket spray or as a banded spray (cotton only). Use a boom sprayer fitted with high flow rate fan nozzles to apply the highest practical spray volume. Apply in a minimum spray volume of 100 L/ha. Nozzles with higher rated flows produce larger droplets. Use the lower spray pressures recommended for the nozzle. 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. A minimum spray pressure of 275 kPa (40 psi) should be used with fan nozzles applying insecticides. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. When applying Exirel by ground application, keep the boom low to avoid spray drift.

Aerial application

Exirel 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) set to medium spray quality. A spray drift minimisation strategy should be employed at all times when applying this product. DO NOT apply Exirel using Ultra Low Volume (ULV) methods.

Tree crops:

Dilute spraying

- Use a sprayer designed to apply high volumes of water up to the point of run-off and matched to the crop being sprayed.
- Set up and operate the sprayer to achieve even coverage throughout the crop canopy. Apply sufficient water to cover the crop to the point of run-off. Avoid excessive run-off.
- The required volume may be determined by applying different test volumes, using different settings on the sprayer, from industry guidelines or expert advice.
- Add the amount of product specified in the Directions for Use table for each 100 L of water. Spray to the point of run-off.
- The required dilute spray volume will change and the sprayer set up and operation may also need to be changed, as the crop grows.

Concentrate spraying

- Use a sprayer designed and set up for concentrate spraying (that is a sprayer which applies water volumes less than those required to reach the point of run off) and matched to the crop being sprayed.
- Set up and operate the sprayer to achieve even coverage throughout the crop canopy using your chosen water volume.
- Determine an appropriate dilute spray volume (See Dilute Spraying above) for the crop canopy. This is needed to calculate the concentrate mixing rate.
- The mixing rate for concentrate spraying can then be calculated in the following way:

EXAMPLE ONLY

1. Dilute spray volume as determined above: For example 1500 L /ha
2. Your chosen concentrate spray volume: For example 500 L/ha
3. The concentration factor in this example is 3X (i.e. $1500 \text{ L} \div 500 \text{ L} = 3$)
4. If the dilute label rate is 75 mL/100 L, then the concentrate rate becomes 3×75 , that is 225 mL/100 L of concentrate spray.

* The chosen spray volume, amount of product per 100 L of water, and the sprayer set up and operation may need to be changed as the crop grows.

For further information on concentrate spraying, users are advised to consult relevant industry guidelines, undertake appropriate competency training and follow industry Best Practices.

Minimising Spray Drift

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. The most effective way to reduce drift potential and maintain efficacy is to apply spray droplets no smaller than a medium spray droplet size category.

The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. **APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT MINIMISE DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVOURABLE ENVIRONMENTAL CONDITIONS.** When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

DO NOT apply when wind speed is less than 3 or more than 20 kilometres per hour at the application site.

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.

Resistance Warning:

For insecticide resistance management Exirel insecticide is a Group 28 insecticide. Some naturally occurring insect biotypes resistant to Exirel 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 Exirel and other Group 28 insecticides are used repeatedly. The effectiveness of Exirel on resistant individuals could be significantly reduced. Since the occurrence of resistant individuals is difficult to detect prior to use

	<p>DuPont accepts no liability for any losses that may result from the failure of Exirel to control resistant insects.</p> <p>Exirel may be subject to specific resistance management strategies. To help prevent the development of resistance to Exirel observe the following instructions:</p> <ul style="list-style-type: none"> • Use Exirel in accordance with the current Insecticide Resistance Management (IRM) strategy for your region. • Apply Exirel 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 Exirel or other Group 28 insecticides are acceptable if they are used to treat a single insect generation. • Following a “window” of Exirel 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 fields as soon as possible after picking to destroy over-wintering pupae of <i>Helicoverpa armigera</i>. <p>For further information contact your farm chemical supplier, consultant, local Department of Agriculture or Primary Industries, or local FMC Representative.</p> <p>For additional information on insect resistance, modes of action and monitoring visit the Insecticide Resistance Action Committee (IRAC) on the web at www.iraac-online.org</p>
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Precautions:	<p>RE-ENTRY DO NOT allow entry into treated areas until the product has dried, unless wearing cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day’s use.</p> <p>PRECAUTION DO NOT use human flaggers/markers unless they are protected by engineering controls such as vehicles with enclosed cabs</p>
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Protections:	<p>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.</p> <p>PROTECTION OF HONEY BEES AND OTHER INSECT POLLINATORS Highly toxic to bees. In order to protect insect pollinators, refer to “Directions for Use” for crop specific application restrictions. DO NOT spray where bees from managed hives are known to be foraging. DO NOT allow spray drift to flowering weeds or flowering crops in the vicinity of the treatment area. Before spraying notify beekeepers to move hives to a safe location with an untreated source of nectar and pollen, if there is potential for managed hives to be affected by the spray or spray drift. Risk to bees is reduced by spraying early morning and late evening while bees are not foraging.</p> <p>PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT Very toxic to aquatic life. DO NOT contaminate wetlands or watercourses with the product or used containers.</p>
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Storage and Disposal:	<p>Store in the closed, original container in a dry, well-ventilated area, as cool as possible out of direct sunlight.</p> <p>Triple-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</p>
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or designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging for appropriate disposal at an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product.

Safety Directions:

May irritate the eyes. Will irritate the skin. Repeated exposure may cause allergic disorders. Avoid contact with eyes and skin. When opening the container and preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow-length chemical resistant gloves. Wash hands after use. After each day's use, wash gloves and contaminated clothing.

First Aid Instructions:

If poisoning occurs, contact a doctor or Poisons Information Centre.
Phone Australia 13 11 26, New Zealand 0800 764 766.

First Aid Warnings:

RESTRAINTS:

DO NOT apply if heavy rain or storms are forecast within 3 days.

Canola, Cotton, Forage brassicas

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

DO NOT irrigate to the point of runoff for at least 3 days after application.

Citrus

DO NOT apply to citrus until AFTER flowering.

SPRAY DRIFT RESTRAINTS

Specific definitions for terms used in this section of the label can be found at 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 advisory 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 surface temperature inversion conditions present at the application site during the time of application. These 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 sensitive areas (see 'Mandatory buffer zones' section of the following table titled 'Buffer zones for boom sprayers') are observed.

Buffer zones for boom sprayers

Application rate	Boom height above the target canopy	Mandatory downwind buffer zones (metres)			
		Natural aquatic areas	Pollinator areas	Vegetation areas	Livestock areas
Up to maximum label rate	0.5 m or lower	0	0	0	0
	1.0 m or lower	15	0	0	20
150 mL/ha or lower	0.5 m or lower	0	0	0	0
	1.0 m or lower	0	0	0	0

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

- spray is not directed above the target canopy
- the outside of the sprayer is turned off when turning at the end of rows and when spraying the outer row on each side of the application site
- for dilute water rates up to the maximum listed for each type of canopy specified, minimum distances between the application site and downwind sensitive areas (see 'Mandatory buffer zones' section of the following table titled 'Buffer zones for vertical sprayers') are observed.

Buffer zones for vertical sprayers

Type of target canopy	Mandatory downwind buffer zones (metres)			
	Natural aquatic areas	Pollinator areas	Vegetation areas	Livestock areas
2 metres tall and smaller, maximum dilute water rate 1000 L/ha	0	0	0	0
Taller than 2 metres (not fully-foliated), maximum dilute water rate of 4000 L/ha	25	0	5	20

Taller than 2 metres (fully-foliated), maximum dilute water rate of 4000 L/ha	15	0	0	10
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DO NOT apply by aircraft unless the following requirements are met:

- spray droplets not smaller than a MEDIUM spray droplet size category
- for maximum release heights above the target canopy of 3m or 25% of wingspan or 25% of rotor diameter whichever is the greatest, minimum distances between the application site and downwind sensitive areas (see 'Mandatory buffer zones' section of the following table titled 'Buffer zones for aircraft') are observed.

Buffer zones for aircraft

Application rate	Type of aircraft	Mandatory downwind buffer zones (metres)			
		Natural aquatic areas	Pollinator areas	Vegetation areas	Livestock areas
Up to maximum label rate	Fixed-wing	65	0	0	150
	Helicopter	55	0	0	95
150 mL/ha or lower	Fixed-wing	10	0	0	30
	Helicopter	20	0	0	25

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

BROADACRE CROPS

CROP	PEST	RATE/HA	CRITICAL COMMENTS
Canola	Diamondback moth (<i>Plutella xylostella</i>)	150 mL +	Target 1 st -3 rd instar larvae when they reach the economic spray threshold and before they become entrenched in pods. A desiccant can be applied according to its label directions prior to harvest.
	Native budworm (<i>Helicoverpa punctigera</i>) Grey cabbage aphid (<i>Brevicoryne brassicae</i>) – suppression only Turnip aphid (<i>Lipaphis erysimi</i>) – suppression only	ethylated seed oil (refer Surfactant/Wetting agent section)	Apply when aphids first appear before a build up of pest numbers – not a salvage option. A maximum of one (1) application is to be applied to any one crop per season. Further treatments should be made with alternative mode of action insecticides. A desiccant can be applied according to its label directions prior to harvest.
Cotton	<u>Sucking pests:</u> Silverleaf whitefly (<i>Bemisia tabaci</i> B biotype) Cotton aphid (<i>Aphis gossypii</i>) Suppression only <u>Chewing pests:</u> Cotton bollworm (<i>Helicoverpa armigera</i>) Native budworm (<i>Helicoverpa punctigera</i>)	600 mL + ethylated seed oil (refer Surfactant/Wetting agent section)	<u>Heliothis</u> - target 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 hidden feeding sites, such as squares, flowers or bolls. <u>Silverleaf whitefly</u> – target early developing populations. Exirel® is primarily active on the early nymph stage. A maximum of two (2) applications are to be applied to any one crop per season. Further treatments should be made with alternative mode of action insecticides.
Forage brassicas	Cabbage white butterfly (<i>Pieris rapae</i>)Centre grub (<i>Hellula hydralis</i>)Diamondback moth (<i>Plutella xylostella</i>)Native budworm (<i>Helicoverpa punctigera</i>) Soybean looper (<i>Thysanoplusia orichalcea</i>)	150 mL + ethylated seed oil or non-ionic surfactant (refer Surfactant/Wetting agent section)	Regularly scout crops to monitor for eggs and larvae. Apply when insects or damage first appear and before a build up of pest numbers. Entrenched larvae may not be controlled.
	Grey cabbage aphid (<i>Brevicoryne brassicae</i>) – suppression only		Apply when aphids first appear before a build up of pest numbers – not a salvage option. A maximum of two (2) applications are to be applied to any one crop per season. Further treatments should be made with alternative mode of action insecticides.

TREE CROPS

CROP	PEST	RATE	CRITICAL COMMENTS
<p>Apply by dilute or concentrate spraying equipment. Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods. Refer to Application; Tree crop section of the label.</p> <p>Thorough fruit coverage is essential.</p> <p>Use in accordance with Croplife Insecticide Resistance Management Strategy guidelines</p>			
Citrus	<p><u>Rasping pest:</u> Kelly's citrus thrip (<i>Pezothrips kellyanus</i>)</p> <p><u>Chewing pests:</u> Light brown apple moth (<i>Epiphyas postvittana</i>) Fuller's rose weevil (<i>Asynonychus cervinus</i>)</p>	<p><u>Dilute spraying:</u> 75 mL/100 L</p> <p>DO NOT apply more than 3 L/ha</p> <p><u>Concentrate spraying:</u> Refer to Mixing/Application section</p> <p>(DO NOT add a Surfactant/Wetting agent)</p>	<p>A maximum of two (2) applications are to be applied to any one crop per season.</p> <p>Monitor crops from flowering onwards for the presence of Kelly's citrus thrip and Lightbrown apple moth. Apply Exirel®, after flowering, once local pest thresholds are reached. A single application may be suitable where pest pressure is low. Continue to monitor crops and where thrip pressure is moderate to high, apply a second application, no less than 14 days after the first and prior to calyx closure.</p> <p>Fuller's rose weevil: Monitor for weevil emergence. Continue monitoring after spraying. Time at least one application to occur prior to the start of egg lay which usually occurs from late summer and through autumn. DO NOT retreat within fourteen (14) days. The use of Exirel® should be used in conjunction with other weevil control measures. DO NOT use for trunk band spraying.</p>

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