

**CAUTION**  
KEEP OUT OF REACH OF CHILDREN  
READ SAFETY DIRECTIONS BEFORE OPENING OR USING



# DuPont™ Exirel® insecticide



**ACTIVE CONSTITUENT: 100 g/L CYANTRANILIPROLE**

GROUP	<b>28</b>	INSECTICIDE
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For the control of insect pests in Cotton, as per the  
Directions for Use

**Contents: 1-10 L**



**DIRECTIONS FOR USE****RESTRAINTS:**

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

**SPRAY DRIFT RESTRAINTS**

**DO NOT** apply with spray droplets smaller than a MEDIUM spray droplet size category according to nozzle manufacturer specifications that refer to the ASAE S572 Standard or the BCPC Guideline.

**DO NOT** apply during surface temperature inversion conditions at the application site.

**DO NOT** apply when wind speed is less than 3 or more than 20 km per hour are measured at application site.

Users of this product **MUST** make an accurate written record of the details of each spray application within 24 hours following application and **KEEP** this record for a minimum of 2 years.

The spray application details that must be recorded are:

1. date with start and finish times of application;
2. location address and paddock/s sprayed;
3. full name of this product;
4. amount of product used per hectare and number of hectares applied to;
5. crop/situation and weed/pest;
6. wind speed and direction during application;
7. air temperature and relative humidity during application;
8. nozzle brand, type, spray angle, nozzle capacity and spray system pressure measured during application;
9. name and address of person applying this product.

(Additional record details may be required by the state or territory where this product is used.)

**MANDATORY NO-SPRAY ZONES**

**DO NOT** apply if there are aquatic or wetland areas including aquacultural ponds downwind from the application area and within the mandatory no-spray zones shown in the table below:

<b>No-Spray zones for Protection of the Aquatic Environment</b>		
<b>FOR AERIAL APPLICATION</b>		
<b>Wind Speed Range at Time of Application</b>	<b>Downwind No-Spray Zone</b>	
	<b>Fixed-Wing</b>	<b>Helicopter</b>
From 3 to 8 kilometres per hour	140 metres	100 metres
From 8 to 14 kilometres per hour	160 metres	
From 14 to 20 kilometres per hour		
<b>FOR GROUND APPLICATION</b>		
From 3 to 20 kilometres per hour	5 metres	

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

CROP	PEST	RATE/HA	CRITICAL COMMENTS
Cotton	<u>Sucking insects:</u> Silverleaf whitefly ( <i>Bemisia tabaci</i> B biotype) Cotton aphid ( <i>Aphis gossypii</i> ) Suppression only  <u>Chewing insects:</u> Cotton bollworm ( <i>Helicoverpa armigera</i> )  Native budworm ( <i>H. punctigera</i> )	600 mL + ethylated seed oil (refer Surfactant/Wetting agent section)	<u>Heliothis</u> - target eggs and hatchling (neonates or 1 <sup>st</sup> instar) to small larvae (2 <sup>nd</sup> 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.

**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 14 DAYS AFTER APPLICATION.**

#### GRAZING

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

**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 DuPont before applying Exirel® insecticide to crops from which produce is to be exported.

### GENERAL INSTRUCTIONS

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

DuPont™ Exirel® should be applied after careful field monitoring of pest populations 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 cotton terminals.

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

DuPont® Exirel® enters larvae primarily by ingestion, but also by contact. The product also shows ovicidal, ovi-larvicidal and adulticide efficacy, depending upon the pest species. Exposure of the pest species typically results in rapid feeding cessation within a few hours of exposure, however the time to death may take 3 to 6 days, depending upon the species.

### INTEGRATED PEST MANAGEMENT

Application of DuPont™ 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.



**INSECTICIDE RESISTANCE WARNING****GROUP 28 INSECTICIDE**

For insecticide resistance management DuPont™ 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 DuPont accepts no liability for any losses that may result from the failure of Exirel® to control resistant insects.

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

- 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 *Helicoverpa armigera*.

For further information contact your farm chemical supplier, consultant, local Department of Agriculture or Primary Industries, or local DuPont 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.irc-online.org>

**MIXING**

Fill spray tank to ¼ to ½ full of water. 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. 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**

Use an ethylated seed oil at 0.5% v/v, (e.g. Hasten\* @ 500 mL/100 L).

**DO NOT** add a 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.

**APPLICATION**

Droplet VMD should be of medium spray quality according to ASAE S572 definition for standard nozzles.

**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**

DuPont™ 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 according to ASAE S572 definition for standard nozzles. 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.**

**Compatibility**

Since formulations may be changed and new ones introduced, it is recommended that users premix a small quantity of the desired tank mix and observe possible adverse changes (settling out, flocculation etc).

Avoid complex tank mixtures of several products or very concentrated spray mixtures.

**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.

**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.

**PROTECTION OF LIVESTOCK**

Toxic to bees. Will kill foraging bees directly exposed through contact during spraying and while spray droplets are still wet. May harm bees in hives which are over-sprayed or reached by spray drift. Beekeepers who are known to have hives in, or nearby, the area to be sprayed should be notified no less than 48 hours prior to the time of the planned application so that bees can be removed or otherwise protected prior to spraying.

**PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT**

Very toxic to aquatic life. Drift and run off from treated areas may be hazardous to aquatic organisms in neighbouring areas. **DO NOT** contaminate wetlands or watercourses with the product or used containers.

**STORAGE AND DISPOSAL**

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 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.

**PRECAUTION**

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

**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 chemical resistant gloves. Wash hands after use. After each day's use wash gloves and contaminated clothing.

**FIRST AID**

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26.

**IN A MEDICAL EMERGENCY CALL  
1800 674 415 All hours**

**MATERIAL SAFETY DATA SHEET**

Additional information is listed in the Material Safety Data Sheet (available from <http://www.dupont.com.au>).

**NOTICE TO BUYER**

To the extent permitted by law all conditions and warranties and statutory or other rights of action which buyer or any other user may have against DuPont or Seller are hereby excluded. DuPont hereby gives notice to buyer and other users that it will not accept responsibility for any indirect or consequential loss arising from reliance on product information or advice provided by DuPont or on its behalf unless it is established that such information or advice was provided negligently and that the product has been used strictly as directed. DuPont's liability shall in all circumstances be limited to replacement of the product or a refund of the purchase price paid therefore.

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