



**Australian Government**  
**Australian Pesticides and  
Veterinary Medicines Authority**

**PERMIT TO ALLOW SUPPLY AND MINOR USE OF AN UNREGISTERED AGVET  
CHEMICAL PRODUCT FOR CONTROL OF LOCUSTS IN VARIOUS SITUATIONS**

**PERMIT NUMBER – PER88554**

This permit is issued to the Permit Holder in response to an application granted by the APVMA under section 112 of the Agvet Codes of the jurisdictions set out below. This permit allows a Supplier (as indicated) to possess the product for the purposes of supply and to supply the product to a person who can use the product under permit. This permit also allows a person, as stipulated below, to use the product in the manner specified in this permit in the designated jurisdictions. This permit also allows the Permit Holder, the Supplier (if not one and the same) and any person stipulated below to claim that the product can be used in the manner specified in this permit.

**THIS PERMIT IS IN FORCE FROM 2 SEPTEMBER 2020 TO 30 SEPTEMBER 2025**

**Permit Holder:**

LOCAL LAND SERVICES – STATE OPERATIONS  
105 Prince Street,  
ORANGE NSW 2800

**Supplier:**

NSW DEPARTMENT OF PRIMARY INDUSTRIES  
105 Prince Street  
ORANGE NSW 2800

CENTRAL TABLELANDS LOCAL LAND SERVICES  
112 Market Street  
MUDGEE NSW 2850

CENTRAL WEST LOCAL LAND SERVICES  
96 Victoria Street  
DUBBO NSW 2830  
GREATER SYDNEY LOCAL LAND SERVICES  
Level 4, 2-6 Station Street  
PENRITH NSW 2750

HUNTER LOCAL LAND SERVICES  
816 Tocal Road  
PATERSON NSW 2421

MURRAY LOCAL LAND SERVICES  
449 Charlotte Street  
DENILIQUIN NSW 2710

NORTH COAST LOCAL LAND SERVICES  
24 – 26 Mulgi Drive  
SOUTH GRAFTON NSW 2460

NORTH WEST LOCAL LAND SERVICES  
35 – 37 Abbott Street  
GUNNEDAH NSW 2380

NORTHERN TABLELANDS LOCAL LAND SERVICES  
15 Vivian Street  
INVERELL NSW 2360

RIVERINA LOCAL LAND SERVICES  
Building 24, Darnell Smith Drive, Charles Sturt University  
WAGGA WAGGA NSW 2650

SOUTH EAST LOCAL LAND SERVICES  
14 Auburn Street  
Goulburn NSW 2580

WESTERN LOCAL LAND SERVICES  
32 Enterprise Way  
BURONGA NSW 2739

**Persons who can use the product under this permit:**  
Persons generally.

## CONDITIONS OF USE

### Products to be used:

COUNTRY CHLORPYRIFOS 500 INSECTICIDE

AN UNREGISTERED PRODUCT

Containing: 500 g/L CHLORPYRIFOS as the only active constituent.

NUFARM ADONIS 3UL INSECTICIDE

AN UNREGISTERED PRODUCT

Containing: 3 g/L FIPRONIL as the only active constituent.

AMPOL D-C-TRATE ANTI-EVAPORANT SPRAY OIL

AN UNREGISTERED PRODUCT

Containing: 763 g/L (901 mL/L) PETROLEUM OIL as the only active constituent.

CALTEX ORGANIC SUMMER OIL

AN UNREGISTERED PRODUCT

Containing: 831 g/L PETROLEUM OIL as the only active constituent.

D-C-TRON COTTON SPRAY OIL (APVMA No. 52558)

Containing: 827 g/L PETROLEUM OIL as the only active constituent.

### RESTRAINT:

*Chlorpyrifos product:*

DO NOT use in home garden situations.

DO NOT use on turf accessible by the public.

### SPRAY DRIFT RESTRAINTS:

*All products:*

Specific definitions for terms used in this section can be found at [apvma.gov.au/spraydrift](http://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.

*Fipronil product:*

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

- spray droplets not smaller than a **VERY FINE** spray droplet size category
- for fixed wing aircraft with very fine spray droplet category **DO NOT** apply with wind speeds above 14 km/hr
- for maximum release heights above the target canopy of **5 m**, minimum distances between the application site and downwind sensitive areas (see 'Mandatory downwind buffer zones' section of the following table titled 'Buffer zones for aircraft') are observed.

### Buffer zones for aircraft

Type of aircraft	Spray droplet size category	Mandatory downwind buffer zones				
		Bystander areas	Natural aquatic areas	Pollinator areas	Vegetation areas	Livestock areas
Fixed-wing	Very Fine	0 m	1500 m	10 m	0 m	750 m
Fixed-wing	Fine	0 m	800 m	10 m	0 m	450 m
Helicopter	Very Fine	0 m	1200 m	0 m	0m	600 m
Helicopter	Fine	0 m	550 m	0 m	0m	300 m

**Directions for Use:**

<b>Product</b>	<b>Crop</b>	<b>Pest</b>	<b>Rate</b>	<b>Critical Use Comments</b>
500 g/L chlorpyrifos	Crops listed on the label at <b>Attachment 1.</b>	<p>Australian Plague Locust (<i>Chortoicetes terminifera</i>)</p> <p>Spur-throated Locust (<i>Austracris guttulosa</i>)</p> <p>Migratory Locust (<i>Locusta migratoria</i>)</p>	No greater than the label rates for the crop being treated.	<p>Note the highest label rate for a particular crop may be less than the label rate for Australian plague locust. Therefore efficacy may be less than expected.</p> <p>Comply with the label at <b>Attachment 1.</b></p>
3 g/L fipronil	Roosting sites in trees and bushlands in proximity to pasture and broadacre cropping.	<p>Australian Plague Locust (<i>Chortoicetes terminifera</i>)</p> <p>Spur-throated Locust (<i>Austracris guttulosa</i>)</p> <p>Migratory Locust (<i>Locusta migratoria</i>)</p>	Maximum 420 mL/ha	<p>Apply via aerial application only.</p> <p>Apply in early morning or evening while swarms are roosting.</p> <p>DO NOT apply to roosting sites in trees and bushlands in proximity to crops after commencement of flowering (i.e. visible green bud stage).</p> <p>DO NOT apply more than one application per unit area per year.</p> <p>Comply with the label at <b>Attachment 2.</b></p>

763g/L petroleum oil 827 g/L petroleum oil 831 g/L petroleum oil	Agricultural areas, pastures, crops, forage crops, and non- crop areas	Australian Plague Locust ( <i>Chortoicetes terminifera</i> )	To be used as a bulking agent for the registered product <i>Green Guard ULV Biological Insecticide</i> (APVMA No. 55737).	<p>Depending on the product used, comply with the D-C Tron Cotton Spray Oil label and the labels at <b>Attachment 3</b> and <b>Attachment 4</b>. In addition to the labels, comply with the following:</p> <p><i>Safety Directions</i> Will irritate the eyes. May irritate the skin. Avoid contact with eyes and skin. When opening the container and preparing spray wear elbow-length PVC gloves and face shield or goggles. If product in eyes, wash it out immediately with water wash hands after use after each day's use, wash gloves and face shield or goggles.</p> <p><i>First Aid Instructions</i> If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26, New Zealand 0800 764 766. If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.</p>
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**Withholding Period:**

*500 g/L chlorpyrifos product:*

Harvest: Adhere to the withholding periods for crops as specified on the label at **Attachment 1**.

Grazing: If the crop or pasture is to be cut for stockfeed, do not sell any stock that have been fed cut material for export slaughter until the Export Slaughter Interval (ESI) set below has been observed. *The ESI is the minimum period that must elapse between removal of grazing livestock to clean pasture or clean feed and slaughter.*

*3 g/L fipronil product:*

Grazing treated areas for either:

1. Domestic markets & for livestock producing milk for human consumption, and/or
2. Export markets.

REFER TO THE FOLLOWING RELEVANT SECTIONS:

**Export and Grazing Intervals:****LIVESTOCK DESTINED FOR THE DOMESTIC MARKET & LIVESTOCK PRODUCING MILK FOR HUMAN CONSUMPTION****CHLORPYRIFOS:**

Observe the grazing withholding periods as specified on the label at **Attachment 1** before grazing treated pastures or fodder crops or cutting them for stockfeed.

OR

If over-spraying of grazing livestock is unavoidable and does occur, withhold stock from slaughter until the Export Grazing Interval (EGI) or Export Slaughter Interval is met. The EGI is the minimum period that must elapse between the application of the chemical product and slaughter of the stock, where grazing has continued on the crop/pasture from the time that the chemical product was applied.

**FIPRONIL:**

DO NOT graze or cut treated areas for stock food for 14 days after application

OR

*Livestock Withholding Period:* Withhold stock from slaughter for 21 days after application, where stock were present in the treated area at the time of application.

**LIVESTOCK DESTINED FOR EXPORT MARKETS**

The above withholding periods for grazing or cutting for stock food only applies to stock slaughtered for the domestic market. Some export markets apply different standards. To meet these standards, ensure that the Export Slaughter Interval (ESI) or the Export Grazing Interval (EGI) stated below for the relevant chemical product used is observed before stock are sold or slaughtered.

**EXPORT ANIMAL FEED INTERVAL (EAFI):**

FIPRONIL: A minimum period of 14 DAYS must elapse between the application of fipronil and grazing or harvesting the crop/pasture for animal feed.

**EXPORT SLAUGHTER INTERVALS (ESI):**

CHLORPYRIFOS: Livestock that have been grazing on or fed treated material from treated areas and/or over-sprayed with products containing chlorpyrifos should be placed on clean feed for 56 days (8 weeks) prior to export slaughter.

FIPRONIL: Livestock that have been grazing on or fed treated material from treated areas and/or over-sprayed with products containing fipronil should be placed on clean feed for 14 days prior to export slaughter.

**EXPORT GRAZING INTERVAL (EGI):**

**CHLORPYRIFOS:** Livestock that have been grazing on treated crops and/or over-sprayed with products containing chlorpyrifos should not be sold for export slaughter for 56 days (8 weeks) after application of the chemical product, unless the Export Slaughter Interval has been observed.

**FIPRONIL:** Livestock that have been grazing on treated areas and/or over-sprayed with products containing fipronil should not be sold for export slaughter until 21 days has elapsed following application of the chemical product, unless the Export Slaughter Interval has been observed.

**Additional Information:***Chlorpyrifos and fipronil products*

These chemicals may persist in treated areas (including dry pasture and stored animal feed, e.g. hay) for long periods. Livestock fed on areas that were treated when drying off or while dry, may have residues at levels unacceptable to our overseas markets. Similarly, feeds harvested from treated areas when drying off or while dry, may have unacceptable levels of residues. The treated area must be regarded as contaminated until there has been substantial re-growth (i.e. following good rains or the autumn break).

Livestock grazing or receiving contaminated feed should be managed in accordance with the Export Intervals described above. If further advice is required, contact your local State Department of Agriculture or Primary Industries, or the Australian Pesticides and Veterinary Medicines Authority (APVMA).

*Vendor Declaration*

Vendors may use Question 9 on the NVD (Cattle) or Question 7 on the NVD (Sheep) to confirm to buyers that the stock have been managed in accordance with the requirements of Permit PER88554.

**Jurisdiction:**

NSW only.

**Additional Conditions:**

This permit allows for the use of a product in a manner specified on the permit. Persons who wish to prepare for use and/or use products for the purposes specified in this permit must read, or have read to them, the details and conditions of this permit. Unless otherwise stated, the use of the product must be in accordance with the product label at **Attachment 1**.

The holder of the permit must notify the APVMA of new information, including relevant information in accordance with section 161 of the Schedule to the *Agricultural and Veterinary Chemicals Code Act 1994*, in accordance with the obligation imposed by that section.

*Supply*

The supplier must supply the product in a container that complies with the requirements of section 18 of the Agricultural and Veterinary Chemicals Code Regulations. Attached to this container must be a label which is identical in content and format to the label at **Attachment 1**.

*Record keeping*

Maintain records of all treatments performed under this permit. Details must include the date and locations where treatments occurred, the total amount of product used, and the names and addresses of the persons undertaking the use. These details must be maintained for a minimum period of two years from the date of expiry of this permit, and must be made available to the APVMA upon request.



### *Other Matters*

Continued issuance of this permit is subject to the outcomes of the current APVMA reviews of CHLORPYRIFOS and FIPRONIL. This permit may be impacted by the outcomes of these reviews.

### Issued by the Australian Pesticides and Veterinary Medicines Authority

Note: Note: 20/09/2022 – s161 statement added. Permit expiry extended to 30/09/2024. Permit issued as version 2.

26/09/2024 – Permit updated to apply spray drift directions for fipronil. Permit expiry extended to 30/09/2025. Permit issued as Version 3.

01/10/2024 – Permit updated administratively to apply additional locust pests and to correct an attachment reference. Permit issued as Version 4.

## Attachment 1

Product Name: COUNTRY CHLORPYRIFOS 500 EC INSECTICIDE

Label Name:	COUNTRY CHLORPYRIFOS 500 EC INSECTICIDE
Signal Headings:	POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
Constituent Statements:	500 g/L CHLORPYRIFOS 470 g/L HYDROCARBON LIQUID
Mode of Action:	GROUP <b>1B</b> INSECTICIDE
Statement of Claims:	For the control of a wide range of insect pests on fruit, vegetables, oilseeds, cotton, cereals, pasture, commercial turf and other situations as specified in the Directions For Use table.
Net Contents:	10 - 20 L 20 L 5 L
Restraints:	THIS PRODUCT IS TOO HAZARDOUS FOR USE BY HOUSEHOLDERS, HOUSEHOLDERS MUST NOT USE THIS PRODUCT IN OR AROUND THE HOME.  RESTRAINTS - NOT FOR USE IN THE HOME GARDEN
Directions for Use:	This section contains file attachment.
Other Limitations:	

## Attachment 1

Withholding Periods:	<p><b>WITHHOLDING PERIOD</b>            Grain sorghum crops: DO NOT HARVEST FOR 2 DAYS AFTER APPLICATION.            Tomatoes: DO NOT HARVEST FOR 3 DAYS AFTER APPLICATION.            Cole crops, cucurbits: DO NOT HARVEST FOR 5 DAYS AFTER APPLICATION.            Sugarcane, Avocado: DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.            Cereal crops: DO NOT HARVEST FOR 10 DAYS AFTER APPLICATION.            Bananas, Celery, Citrus,            Grapevines, Pome fruit,            Stone fruit, Kiwifruit,            Asparagus: DO NOT HARVEST FOR 14 DAYS AFTER APPLICATION.            Mango: DO NOT HARVEST FOR 21 DAYS AFTER APPLICATION.            Cotton: DO NOT HARVEST FOR 4 WEEKS AFTER APPLICATION .DO NOT GRAZE OR CUT FOR STOCKFOOD FOR 4 WEEKS AFTER APPLICATION.</p> <p>Cereal, grains, legumes,            animal feeds, grasses,            glass like plants &amp; other            forages/forage crops: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 2 DAYS AFTER APPLICATION            Turf: DO NOT FEED TURF/LAWN CLIPPINGS FROM TREATED AREA TO POULTRY OR LIVESTOCK.</p>
Trade Advice:	
General Instructions:	<p>See attachment            This section contains file attachment.</p>
Resistance Warning:	<p><b>INSECTICIDE RESISTANCE WARNING</b>  <b>GROUP 1B INSECTICIDE</b></p> <p>For insecticide resistance management Country Chlorpyrifos is a Group 1B insecticide. Some naturally occurring insect biotypes resistant to Country Chlorpyrifos and other Group 1B insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if Country Chlorpyrifos or other Group 1B insecticides are used repeatedly. The effectiveness of Country Chlorpyrifos on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, Accensi Pty Ltd accepts no liability for any losses that may result from the failure of Country Chlorpyrifos to control resistant insects. Country Chlorpyrifos may be subject to specific resistance management strategies. For further information contact your local supplier, Accensi Pty Ltd representative or local agricultural department agronomist</p>
Precautions:	<p><b>RE-ENTRY PERIODS</b>            Fields crops, tree crops and vines: DO NOT allow entry into treated crops until spray deposits have dried. If prior entry is required, limit duration of entry and wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's use. Greenhouses: DO NOT allow entry into greenhouses until spray deposits have dried and treated areas are adequately ventilated. If prior entry is required, limit duration of entry and wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves and half face piece respirator. Clothing must be laundered after each day's use.</p>

## Attachment 1

Not for use around the home, garden, residential or publicly accessible spaces.

Cotton Chippers: DO NOT allow entry into treated areas until spray deposits have dried. After this time, wear shoes, or boots, socks, long trousers, long sleeved shirt, gloves and hat.

Protections:	<p><b>PROTECTION OF CROPS, NATIVE AND OTHER NON TARGET PLANTS</b> Care should be taken when applying this product to any released sorghum hybrid or variety. Treat a small area first and observe for 3-4 days.</p> <p><b>PROTECTION OF LIVESTOCK</b> Dangerous to bees. DO NOT spray any plants in flower while bees are foraging.</p> <p><b>PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT</b> Highly toxic to birds and reptiles. Very highly toxic to fish and aquatic invertebrates. DO NOT contaminate streams, rivers or waterways with the chemical or used containers. DO NOT apply if heavy rains or storms that are likely to cause surface runoff are forecast in the immediate area within two days of application. DO NOT reapply to the same crop within 10 days (unless specifically recommended in the Directions for Use). DO NOT apply when irrigating, or to waterlogged soil, or while water remains on the surface or in furrows, unless tail water is captured on farm. DO NOT allow contaminated runoff water from treated paddocks to enter adjacent areas or water bodies. Runoff contaminated by irrigation events (tail water) and a 25mm rain storm should be captured on farm for two days after application.</p>
Storage and Disposal:	<p><b>STORAGE AND DISPOSAL</b> Store in closed, original container in a dry, cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight.</p> <p><b>Nonrefillable containers</b> 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 or designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging to 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.</p> <p><b>Refillable containers</b> Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.</p>
Safety Directions:	<p><b>SAFETY DIRECTIONS</b> Product is poisonous if absorbed by skin contact, inhaled or swallowed. Repeated exposure may cause allergic disorders. Repeated minor exposure may have a cumulative poisoning effect. Will irritate the eyes and skin. Avoid contact with eyes and skin. DO NOT inhale vapour or spray mist. When opening the container, preparing the spray or bait and using the prepared spray or bait wear chemical resistant clothing buttoned to the neck and wrist, washable hat, elbow-length PVC gloves, goggles, chemical resistant footwear and half facepiece respirator with combined dust and gas cartridge or canister. If clothing becomes contaminated with product or wet with spray, remove clothing immediately. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. After use and before eating, drinking or smoking wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, goggles, respirator and if rubber wash in detergent and warm water and contaminated clothing.</p>
First Aid Instructions:	<p><b>FIRST AID</b> If swallowed, splashed on skin or in eyes, or inhaled, contact a Poisons Information Centre (Phone Australia 131126) or a doctor at once. Remove any contaminated clothing and wash skin thoroughly. If swallowed, DO NOT induce vomiting, give a glass of water, activated charcoal may be advised. Give atropine if instructed. If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.</p>
First Aid Warnings:	

# Attachment 1

## DIRECTIONS FOR USE

### 1. TREE AND VINE CROPS

#### RESTRAINTS -

#### NOT FOR USE IN THE HOME GARDEN

RATE				CRITICAL COMMENTS		
This table shows rates for dilute spraying. For concentrate spraying, refer to the Mixing/Application section				For all uses in this table: 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.		
CROP	INSECT	STATE	RATE		WHP <sup>1</sup>	CRITICAL COMMENTS
			Vol/ha	Vol/100L		
Apples, Pears	San Jose scale	NSW,SA, WA, Qld only	-	100mL (2% miscible winter oil may be added to the dormant spray)	14 days	<b>Dormant period:</b> Apply as late as possible ensuring thorough coverage of limbs and branches. <b>Seasonal period:</b> Apply to coincide with crawler activity in mid-late November and later as necessary. Ensure thorough coverage of branches, foliage and fruit.
	Woolly aphid					Apply when infestation build-up is first noticed ensuring thorough coverage.
	Mealy bugs	SA, WA only				Apply initially at petal fall and then 10-14days later. Apply a follow-up application if necessary, 2-3 weeks prior to harvest. Ensure thorough coverage of all branches, foliage and fruit.
Avocado	Avocado leaf roller, Ivy leaf roller	Qld, WA only	1 or 2L	50 or 100mL	7 days	Use this rate in tank mix with 1L/ha (500mL/100L of water) of dichlorvos (500 g/L). For low volume spray equipment use L/ha rate. Apply at first sign of pest activity before larvae move to fruit. Use higher rate when populations are high.
	Ivy leaf roller	NSW,WA only				Apply at first sign of pest activity before larvae move to fruit. Use higher rate when populations are high.
	Latania scale, Hairy caterpillars, Light brown apple moth, Red shouldered leaf beetle					Apply when populations indicate treatment is required. Spot spray affected trees only. Repeat as necessary. Use higher rate when populations are high.
Citrus	California red scale (Aonidiella auranti)	NSW, Vic, SA, WA only	-	100mL alone or 50mL + 1L miscible summer spraying oil	14 days	Apply during November-March period. Two sprays may be required under conditions of heavy scale infestation. Apply with high volume sprayer to point of runoff. <b>Note: DO NOT use on citrus in areas where integrated control programmes are in operation.</b>
		Qld only		100L alone or 100mL+1L miscible summer spraying oil		
Citrus, Pome fruit	Wingless grasshopper	NSW, Vic, Tas, SA, WA only	500mL	50mL	14 days	Spray areas of crop infested with grasshoppers. Apply also as a barrier across the line of advance, when grasshoppers are invading the crop.
Grape Vines	Light brown apple moth	All States	-	50mL	14 days	Apply initial spray just after berry set (early October). Later schedule sprays should be made as required.
	Grapevine moth (Phaenoides glyciniae)	Qld, Tas, NSW, SA, WA only		100mL alone or 50mL plus 1L miscible winter oil		
	Grapevine scale(Parthenolecanium persicae)					
Kiwifruit	Common armyworm, Southern armyworm, Light brown apple moth	NSW, Vic, WA, SA, Tas, Qld only	-	50mL	14 days	Apply at green tip at least 10 days after dormant lime sulphur application and at pre-blossom. DO NOT apply post blossom.
Mango	Common mango scale	Qld, WA only	-	100mL	21 days	Apply to coincide with crawler activity. Ensure thorough coverage of all branches, foliage and fruit.
Stonefruit	European earwig	NSW, WA only	2L	100mL	14 days	<b>Spray Application:</b> Apply in a minimum of 2000 L/ha in spring. If lower volume used increase concentration to apply 2L of product/ha.
		NSW, WA, Tas, SA only	200mL+ 250mL sunflower oil/5kg cracked wheat or cracked sorghum	<b>Bait Application:</b> Apply 5kg of bait/ha in spring by fertiliser spreader. See General Instructions on preparation of cracked wheat or cracked sorghum bait.		
	San Jose scale	Qld, WA, NSW only	-	100mL (2% miscible winter oil may be added to the dormant spray)		<b>Dormant Period:</b> Apply as late as possible ensuring thorough coverage of all branches. <b>Seasonal Period:</b> Apply to coincide with crawler activity in mid-late November and later if necessary. Ensure thorough coverage of all branches, foliage and fruit. <b>Note:</b> Some fruit marking may occur if spraying is carried out under hot, dry conditions.



## Attachment 1

### 2. FRUIT AND VEGETABLES

#### RESTRAINTS -

#### NOT FOR USE IN THE HOME GARDEN

CROP	INSECT	STATE	RATE		WHP <sup>1</sup>	CRITICAL COMMENTS
			Vol/ha	Vol/100L		
Bananas	Banana scab moth ( <i>Nacoleia octasema</i> )	Qld, WA only	Aerial 1 or 2L in a minimum of 10L water	200mL in a minimum of 500L water/ha	14 days	Apply from the first appearance of flower bell and repeat as populations indicate until fingers are exposed. Use high rate with onset of wet weather and/or heavy insect pressure. <i>Note: Burning of young fruit may occur under poor drying conditions.</i>
	Banana weevil borer	Qld, NSW, WA only	–	1 or 1.8 L		After removal of trash, apply 500-700mL of spray depending on butt size, to the lower 30 cm of the butt and to the surrounding soil within a radius of 30 cm, ensuring thorough coverage of butt and suckers. <i>Sub-tropical areas:</i> Use high rate for annual control of borers. <i>Tropical areas:</i> Use high rate in September-November for initial spray and follow-up with low rate in February-April should insect pressure warrant a second application.
	Caterpillars	NSW only	–	200mL		Apply from the first appearance of lower bell and repeat as populations indicate until fingers are exposed. Use as ground application only. <b>DO NOT</b> apply by air.
Cabbage, Cauliflower	African black beetle	NSW, WA only	2L (Boom Spray)	300mL (Drench)	5 days	<b>Boom Spray:</b> Apply in 500-1000L of water/ha at or soon after planting as a 10-15 cm band spray. <b>Drench:</b> Apply 100mL of diluted spray to base of each plant. Treat as soon as the first signs of infestation are observed. <i>Note: If attack is prolonged follow-up boom spray or drench treatment may be necessary.</i>
Carrots	Light brown apple moth	All States	500 or 700mL	–	–	Apply when moths are first detected. Repeat at the higher rate if there is a recurrence of infestation.
Cassava	Cutworm ( <i>Agrotis</i> spp.)	Qld, WA only	700mL	–	–	Apply to seedlings and soil at base of seedlings when cutworm activity is observed.
Cole Crops including Cabbage, Cauliflower, Brussel Sprouts, Broccoli	Cabbage moth, Cabbage white butterfly, Cabbage aphid, Cluster caterpillar, Cabbage cluster caterpillar	NSW, Vic, Tas, SA, WA only	1.5 or 2L	150 or 200mL	5 days	Spray at 10-14 day intervals. Use high rate under heavy pressure. <b>Large plants:</b> Use 1,000 Spray/ha. To improve spray coverage add non-ionic wetting agents as recommended.
	Com earworm, Native budworm ( <i>Helicoverpa</i> spp.)	Qld, WA only	1.5 L	150mL		Apply as pests indicate commencing when pests first appear. <b>Large plants:</b> Use 1,000L spray/ha.
	Com earworm	NSW, Vic, SA, WA only	1.5 or 2L	150 or 200mL		Apply at 10-14 day intervals. Use high rate under heavy pest pressure. <b>Large plants:</b> Use 1,000L spray/ha.
	Native budworm ( <i>Helicoverpa punctiger</i> )	NSW, Vic, Tas, SA, WA only	–	–		Apply at 10 day intervals commencing when pests first appear. Apply at 7 day intervals under heavy pest pressure. <b>Large plants:</b> Use 1,000L spray/ha.
	Wingless grasshopper	–	500mL	50mL		Spray areas of crop infested with grasshoppers. Also apply as a barrier across the line of advance, when grasshoppers are invading the crop.
	Red legged earth mite, Blue oat mite	NSW, WA only	140 or 300mL	–		Use higher rate for severe infestations. Headlands and vegetation surrounding the crop may also need to be sprayed.
Cucurbits	White flies	–	–	50mL	–	Apply when pest is first detected. If required repeat application every 10-14 days.
Ginger	Cutworm ( <i>Agrotis</i> spp.)	Qld, WA only	700 or 900mL	–	–	Apply when pest population is evident from damage to the primary shoot at or below ground, or to the first leaf during growth.
Pineapples	Pineapple mealybug, Ants	Qld, WA only	–	50 or 100mL	–	Apply when pests are first seen and repeat at 90 day intervals or as necessary. Use a minimum of 3000L of spray/ha. Use higher rate under heavy pest pressure.
	White grubs	–	5 L	–		Apply as a preplant spray to a freshly cultivated soil surface. Incorporate immediately by rotary hoeing to a depth of 10-20 cm.
Potatoes	African black beetle	NSW, WA only	3-6L	–	–	Apply the spray to the soil immediately prior to planting, ensuring thorough incorporation to a depth of 15cm. Use high rate under heavy pest pressure.
			900mL	–		Apply as a second spray as bands on either side of plants at final hilling-up. Ensure good incorporation of the spray immediately into the soil in the hill.
	White fringed weevil	NSW, Vic, WA only	6L	–		Apply preplant and incorporate into the soil immediately after application.
		WA, NSW only	1L	–		Apply at hilling-up or 7 weeks after planting as a follow-up to preplant incorporation.

## Attachment 1

CROP	INSECT	STATE	RATE		WHP <sup>1</sup>	CRITICAL COMMENTS
			Vol/ha	Vol/100L		
	Wireworms	Vic, WA only	6L			Apply as a band spray to the soil surface incorporating immediately. Use before planting in areas where wire worms are a known problem.
Strawberries	Field crickets ( <i>Teleogryllus commodus</i> ), Mole crickets ( <i>Gryllotalpa</i> spp.)	Qld, WA only	100mL/10 kg bran <sup>2</sup>			Apply in recently ratooned strawberry patches or newly planted runners when damage or pest populations indicate. Broadcast, preferably in the late afternoon to base of plants and inter-row space. <i>See General Instructions for preparation of bran baits.</i>
Silver Beet	Redlegged earth mite, Blue oat mite	NSW, Tas, WA only	140 or 300mL			Use higher rate for severe infestations. Headlands and vegetation surrounding the crop may also need to be treated.
Tomatoes	Tomato grub ( <i>Helicoverpa armigera</i> )	Qld, Vic, NSW, WA only	1.5 or 2L	150 or 200mL	3 days	Spray on 7-10 days schedule commencing at flowering. Use high rate under heavy pest pressure.
	Native budworm ( <i>Helicoverpa punctiger</i> )	Tas, WA only				
	Green vegetable bug	Tas, SA, WA only				Spray at first sign of bug activity. Use higher rate under heavy pest pressure.
	Green peach aphid	Qld, Vic, Tas, SA, WA only	1L	100mL		Spray when aphids are seen. <b>Large Plants:</b> Use 1,000L spray/ha.
	Wingless grasshopper	NSW, Vic, Tas, SA, WA only	500mL	50mL		Spray areas of crop infested with grasshoppers. Also apply as a barrier across the line of advance, when grasshoppers are invading the crop.
	African black beetle	NSW only	2L (Boom Spray)	300mL (Drench)	-	<b>Boom Spray:</b> Apply in 500-1000L of water/ha at or soon after planting as a 10-15 cm band spray. <b>Drench:</b> Apply 100mL of diluted spray to base of each plant. Treat as soon as first sign of infestation is noticed. <b>Note: If attack is prolonged follow up boom spray or drench treatment may be necessary.</b>
Vegetables <sup>3</sup> including asparagus, beans, beetroot, broccoli, Brussels sprouts, cabbage, cauliflower, capsicum, carrot, celery, eggplant, onion, peas, potato, radish, rhubarb, shallot, sweet potato, tomato, turnip	Wingless grasshopper	NSW, Vic, Tas, SA, WA only	500mL	50mL	Tomatoes 3 days	Spray areas of crop infested with grasshoppers. Apply also as a barrier across the line of advance when grasshoppers are invading the crop.
	Cutworm ( <i>Agrotis</i> spp.)	All States	700mL	70mL	Cole Crops Cucurbits 5 days	Apply immediately infestation is observed. Increase concentration to compensate if application is below 1000L spray/ha. Spray should cover soil out to at least 20 cm on both sides of row crop. Retreat as necessary.
	Field crickets ( <i>Teleogryllus commodus</i> ), Mole crickets ( <i>Gryllotalpa</i> spp.)	Qld, WA only	100mL /10kg bran <sup>2</sup>	-	Asparagus Celery 14 days	Apply as pest populations indicate. <i>See General Instructions on preparation of bran baits.</i>
	Vegetable weevil	NSW, WA only	800mL			Apply immediately infestation is observed. Apply as a band over the young plants and adjacent soil along the row. One treatment should be sufficient if plants are sprayed at the seedling stage or soon afterwards.

### 3. FIELD CROPS AND PASTURE

#### RESTRAINTS -

#### NOT FOR USE IN THE HOME GARDEN

CROP	INSECT	STATE	RATE	WHP <sup>1</sup>	CRITICAL COMMENTS
Cereals, Pasture, Forage Crops	Southern armyworm ( <i>Persectania ewingii</i> ), Common armyworm ( <i>Mythimna convecta</i> )	All States	700 or 900mL/ha	Cereals 10 days (Harvest) 2 days (Grazing)	Spray over total crop area when infestation is widespread. When pests are moving as an "army" treat a broad strip over and in advance of the infestation. <b>Late Stage Instar:</b> Use higher rate when larvae 3 cm in length. Apply follow-up treatment as required.
Cereals	Pasture webworm ( <i>Hednota</i> spp.)	NSW, Vic, Tas, SA only	700mL/ha		Spray at first sign of damage. Apply from the ground with boom or mister or apply by air.
		WA only	300mL/ha		<b>Preplant:</b> Apply with the label rate of an approved tillage herbicide to foliage prior to any cultivation, <b>Post-emergence:</b> Apply at first sign of damage. Apply with ground-rig boom or mister or by air.
Cereals, Pasture, Young Plants of Oilseeds	Cutworm ( <i>Agrotis</i> spp.)	Qld, Tas, NSW, WA only	900mL in a minimum of 100L water/ha		Apply immediately infestation is observed. Apply follow-up treatments as required.
		Vic only	700mL in a minimum of 100L water/ha		
Cereals, Pasture, Oil Seeds	Cutworm ( <i>Agrotis munda</i> and <i>A. intusa</i> )	SA, WA only			

## Attachment 1

CROP	INSECT	STATE	RATE	WHP <sup>1</sup>	CRITICAL COMMENTS
Cereals	Cereal curculio		120mL/100kg seed	-	Apply as a seed dressing, through an accurately calibrated applicator just prior to sowing. <i>Note: A sowing rate of 95 kg/ha (min.) is necessary to ensure economic responses are achieved.</i>
Cereals, Pasture, Forage Crops	Spur-throated locust	Qld, Vic, NSW, WA only	1.25 or 1.5L/ha	Cereals 10 days (Harvest) 2 days (Grazing)	Spray areas of crop or pasture infested with locusts. Apply spray to trees or roosting sites to control swarming adult locusts. <i>Late stage hoppers and adults:</i> Use higher rate.
	Australian plague locust	Vic only	560mL/ha		<i>Adults:</i> Spray areas of crop or pasture infested with locusts.
			350mL/ha		<i>Hoppers:</i> Spray a swath in advance of marching band and then spray along the dense marching front. Continue spraying until all hoppers have been contacted.
		SA only	560mL/ha		<i>Adults:</i> Spray areas of crop or pasture infested with locusts.
		Qld, Vic, NSW, WA only	350mL/ha		<i>Hoppers:</i> Spray a swath in advance of marching band and then spray along the dense marching front. Continue spraying until all hoppers have been contacted.
					Spray areas of crop, trees and roosting sites infested with locusts.
	Migratory locust	Qld, WA only			
	Blue oat mite	All States	140mL/ha		Spray when pests appear in large numbers, 3-6 weeks after autumn rains. Respray as necessary. Avoid spraying when pests are sheltering. Spray when at least 2.5 cm cover of pasture or crop is present. DO NOT spray if rain is imminent.
	Lucerne flea	NSW, Vic, Tas, SA, WA only	70mL/ha		
	Redlegged earth mite		140mL/ha		
Cereals, Pasture, Oil Seeds	Wingless grasshopper		500mL/ha		Spray areas of crop or pasture infested with grasshoppers. Apply also as a barrier across the line of advance, when grasshoppers are invading the crop.
Field peas, Broad beans, Chickpeas, Lupins, Lucerne, Lucerne Pastures & Clover Seed Crops, Rapeseed/ Canola, Linseed, Safflower, Wheat, Oats, Barley, Rye, Triticale, Improved Annual Pastures, Established Perennial Pastures	Blue oat mite, Redlegged earth mite	NSW, WA only	140 or 300mL/ha	Cereals 10 days (Harvest) 2 days (Grazing)	Apply as a ground spray immediately prior to seedling emergence using sufficient water to give good coverage. If mite activity is severe also spray headlands and surrounding vegetation prior to seedling emergence.
Cotton (Young Plants)	Cutworm ( <i>Agrotis</i> spp.)	Qld, NSW, WA only	900mL in minimum of 100L water/ha	4 weeks (Harvest) 4 weeks (Grazing)	Apply immediately infestation is observed. Apply follow-up treatments as required.
	Southern armyworm ( <i>Persectania ewingii</i> ), Common armyworm ( <i>Mythimna convecta</i> )		700 or 900mL/ha		Spray over total crop area when infestation is widespread. When pests are moving as an "army" treat abroad strip over and in advance of the infestation. <i>Late stage instar:</i> Use higher rate when larvae 3 cm in length. Apply follow-up treatments as required.
	Pink spotted boll worm moth	Qld, WA only	1L/ha		Apply when 10-15 moths are trapped on two consecutive nights. This prevents infestation of bolls by larvae.
	Spur-throated locust	Qld, WA, NSW only	1.25 or 1.5L/ha		Spray areas of crop infested with locusts. Apply spray to trees or roosting sites to control swarming adult locusts. <i>Late stage hoppers or adults:</i> Use higher rate.
	Wingless grasshopper		500mL/ha		Spray areas of crop infested with grasshoppers. Apply also as a barrier across the line of advance when grasshoppers are invading the crop.
	Cotton aphid		300 or 400mL/ha		Apply when pests first appear. Respray as indicated by field inspection. Use higher rate for higher populations.
	Cotton flea beetle, Reshoulder leaf beetle		900mL or 1.5 L/ha		Apply when pests are present. Use higher rate under heavy pest pressure.
	Springtails		300mL/ha		Spray when large numbers of pests occur and damage is evident. Respray as necessary.
	Migratory locust	Qld, WA only	350mL/ha		Spray areas of crop, trees and roosting sites infested with locusts.
Hops	Common armyworm ( <i>Mythimna convecta</i> ), Southern armyworm ( <i>Persectania ewingii</i> )	Tas, WA only	160mL/100L water/ha	-	Apply as pests indicate, commencing when they first appear.
	Light brown apple moth				
Lucerne (Young Plants)	Cutworm ( <i>Agrotis</i> spp.)	Qld, Tas, NSW, WA only	900mL in a minimum of 100L water/ha	2 days (Grazing)	Apply immediately infestation is observed. Apply follow-up treatments as required.
		Vic only	700mL in a minimum of 100 L water		
	Cutworm ( <i>Agrotis munda</i> and <i>A. intusa</i> )	SA, WA only			



# Attachment 1

CROP	INSECT	STATE	RATE	WHP <sup>1</sup>	CRITICAL COMMENTS
Lucerne	Web spinner caterpillar ( <i>Loxostege</i> spp.)	NSW, WA, Qld only	700mL/ha		Spray when pests appear.
	Lucerne leaf roller ( <i>Meroplyas divulsana</i> )		300 or 400mL/ha		Apply when pests first appear. Late stage instar: Use higher rate when larvae 1.5cm in length are present and/or under heavy pest pressure.
Lucerne and Medics in Pasture and Forage Crops	Spotted alfalfa aphid, Bluegreen aphid	NSW/WA only	200 or 300mL/ha		Spray when aphids first appear. Use the higher rate when large numbers of aphids are invading the crop. Seedling Lucerne, Medics: Apply when 1-2 aphids/plant are observed. Established Lucerne, Medics: Apply when 20-40 aphids/stem are observed.
	Pea aphid	Qld, Vic, NSW, Tas, SA, WA only			
	Sitona weevil	NSW, Vic, Tas, SA, WA only	350mL/ha		Apply October to December or in autumn when adults occur in damaging numbers.
Maize, Soybeans, Sunflower	False wireworm, Cockroaches, Field crickets	Qld, WA only	100mL/ha plus 125mL sunflower oil /2.5 kg cracked wheat or cracked sorghum <sup>4</sup>	-	Apply at planting of crop. See General Instructions on preparation of cracked wheat or sorghum bait.
Pasture	Lawn armyworm ( <i>Spodoptera mauritia</i> )	Qld, NSW, WA only	700mL/ha	2 days (Grazing)	Spray over total crop area when infestation is widespread. When pests are moving as an "army" treat a broad strip over and in advance of the infestation. Apply follow-up treatments as required.
	Sod webworm ( <i>Herpetogramma licarsialis</i> )	Qld, WA only			Spray as early as possible once pests appear. Apply from the ground with boom or mister. Respray as necessary.
	Blackheaded pasture cockchafer	NSW, Tas, Vic, SA, WA only	900mL/ha		Treat when larvae are actively foraging as indicated by numerous piles of fresh soil, or casts on the surface. This usually occurs after showers of rain following short dry spells. Apply by ground-rig boom.
	Corbie ( <i>Oncopera intricata</i> )	Tas only	1.5L/ha		Apply May to July for Winter Corbie and August to September for Corbie before grub populations reach damaging numbers. Check pastures regularly (as recommended by the Tasmanian Department of Primary Industries) from early May onwards for winter corbies and early August onwards for corbies and apply Country Chlorpyrifos 500EC to winter corbie larvae that are 20mm or less in length and corbie larvae that are 40mm or less in length. Application to larger larvae may result in unsatisfactory control. Aim to apply to dry pastures that have been recently grazed during mid to late afternoon to obtain the best control.
	Winter Corbie or Underground grass grub ( <i>Oncopera rubrorunnea</i> )	Tas, Vic, NSW only	1.5L/ha		
Pasture, Forage Crops	Underground grass grub or Underground grass caterpillar ( <i>Oncopera fasciculatus</i> )	SA, Vic, WA only	900mL/ha	2 days (Grazing)	Apply when caterpillars are actively feeding. Spray before noticeable damage has occurred. Graze pasture prior to spraying to ensure penetration of spray into the pasture sward.
	Underground grass grub ( <i>Oncopera rubrorunnea</i> )	NSW only			
	Brown pasture looper ( <i>Ciampa anietaria</i> )	NSW, Vic, Tas, SA, WA only	700mL/ha		Spray at first sign of pasture infestation.
	Pasture webworm ( <i>Hednota</i> spp.)				Spray at first sign of damage. Apply from the ground with boom or mister or apply by air.
Rapeseed/Canola	Wireworm, False wireworm	Qld, WA only	1 or 1.5L/ha	-	Apply as a broadcast application. Use higher rate with extreme population numbers. See General Instructions on soil application.
Rice	Bloodworm	NSW/WA only	60 or 150mL/ha	10 days	Use higher rate when water more than 15cm or amount of decaying plant material is high.
	Brown plant hopper	Qld, WA only	1.5L/ha		Apply when pest numbers reach 1-2 per tiller and repeat as necessary.
Sorghum  NOTE: DO NOT use on Sugar Drip or Alpha Sorghum. Check new varieties before applying to entire crop	Southern armyworm ( <i>Persectania ewingii</i> ), Common armyworm ( <i>Mythimna convecta</i> )	NSW, Qld, WA only	700 or 900mL/ha	2 days (Harvest) 2 days (Grazing)	Spray over total crop area when infestation is widespread. When pests are moving as an "army" treat a broad strip over and in advance of the infestation. Late stage instar: Use higher rate when larvae 3 cm in length. Apply follow-up treatments as required.
	Cutworm ( <i>Agrotis</i> spp.)		900mL in minimum of 100L water/ha		Apply immediately infestation is observed. Apply follow-up treatments as required.
	Spur-throated locust		1.25 or 1.5L/ha		Spray areas of crop infested with locusts. Apply spray to trees or roosting sites to control swarming adult locusts. Late stage hoppers and adults: Use higher rate.

## Attachment 1

CROP	INSECT	STATE	RATE	WHP <sup>1</sup>	CRITICAL COMMENTS
	Australian plague locust		350mL/ha		<b>Adults:</b> Spray areas of crop infested with locusts. <b>Hoppers:</b> Spray a swath in advance of marching band and then spray along the dense marching front. Continue spraying until all hoppers have been contacted.
	Migratory locust	Qld, WA only	350mL/ha		Spray areas of crop, trees and roosting sites infested with locusts.
	Sorghum midge	Qld, NSW, WA only	500mL/ha		Check regularly (preferably in the morning) and apply when 1-2 midge per head are present from first emergence of boot to pollen shedding. With repeated attack spray at intervals of 5 days or less.
	Corn aphid (Rhopalosiphum maidis)				
	False wireworm, Cockroaches, Field crickets	Qld, WA only	100mL/ha plus 125mL sunflower oil / 2.5 kg cracked wheat or cracked sorghum <sup>4</sup>	2 days (Grazing)	Apply at planting of crop. See General Instructions on preparation of cracked wheat or cracked sorghum bait
Sugarcane	Southern armyworm (Pseudaletia ewingii), Common armyworm (Mythimna convecta)	Qld, WA only	700 or 900mL/ha	7 days (Harvest) 2 days (Grazing)	Spray over total area when infestation is widespread. When pests are moving as an 'army' treat a broad strip overhead in advance of the infestation. Late stage instar: Use higher rate when larvae 3 cm in length. Apply follow-up treatments as required.
	Spur-throated locust		1.25 or 1.5L/ha		Spray areas of crop infested with locusts. Apply spray to trees or roosting sites to control swarming locusts. Late stage hoppers & adults: Use higher rate.
	Australian plague locust, Migratory locust		350mL/ha		<b>Adults:</b> Spray areas of crop infested with locusts. <b>Hoppers:</b> Spray a swath in advance of marching band and then spray along the dense marching front. Continue spraying until all hoppers have been contacted. Spray areas of crop, trees and roosting sites infested with locusts.
	Sugarcane wireworm	Qld, WA, NSW only	1.5L/ha		Apply as a low pressure (less than 35kPa) or gravity feed spray onto the plant sett and adjacent soil, at the point of exit from the rear of the planting machine, immediately prior to soil cover being brought in over the sett.
	Symphylids	Qld, WA only	2L/ha		
	African black beetle, Black beetle	NSW, WA only	1.5L/ha		Apply at planting or ratooning. Apply as a low pressure (less than 35kPa) or gravity feed spray onto the plant sett and adjacent soil through a nozzle placed above the planter boards. Repeat treatment within 12 weeks of planting if black beetles reoccur.
Tobacco	Wireworm, False wireworm, Cutworm	Vic, WA only	3L/ha	—	Apply as a preplant spray to cultivated soil surface. Incorporate immediately by rotary hoeing to a depth of 10 cm.

### 1. MISCELLANEOUS

#### RESTRAINTS

FOR USE ON COMMERCIAL TURF FARMS ONLY. NOT FOR USE IN PUBLIC AREAS OR IN THE HOME GARDEN

DO NOT spray polycarbonate surfaces/roof sheeting or aged vinyl wall cladding as solvent may cause etching.

CROP	INSECT	STATE	RATE	CRITICAL COMMENTS
Commercial and industrial areas not accessible to the public	Cockroaches (residual control and/or heavy infestations) Spiders	All States	95mL/10L water/ha	Apply as a coarse, low pressure spray to the point of run-off, to cracks, crevices, harbourages and other places where pests may occur. For optimum control of webbing spiders, use a 2-part treatment. After applying as a coarse, low-pressure spray to harbourages where the spiders may occur, apply a light spray over the surfaces of the building.
	Silverfish, Cockroaches (light infestations)		50mL/10L water/ha	
	Ants		95mL/10L water /ha. Use at least 1L of spray/10m <sup>2</sup> infested area	Locate ant nests and treat appropriately. Spray ant tracks, nests or where ant activity is noticed. Apply to paths in continuous 30cm bands. Apply to base of buildings, walls, fences, rockworks, trunks of shrubs and trees and other hard surfaces to a height of 30cm. Note: Argentine ants in WA: for domestic use only. All occurrences of Argentine ants are to be reported to the WA Department of Agriculture. Note: DO NOT apply inside buildings except as a crack and crevice treatment. DO NOT apply to surface areas such as interior floors and walls.
	Argentine ants	NSW, Vic, Tas, SA only		
	Fleas (outdoor use only)	Qld, NSW, Tas, SA, WA, NT only	90mL/10L water/ha	Apply as a fine particle spray. Outdoors: Treat where animals rest and/or where pests have been seen. Remove animals during treatment and until spray deposits dry. DO NOT treat pets with this product. Pets should be treated with a product registered for application to animals.

## Attachment 1

Light vegetation. Must not be used in residential areas, around homes, in public spaces or in publicly accessible commercial or industrial areas	Mosquito larvae	Qld, NSW, Vic, WA, NT only	30mL/ha	Apply diluted in water as a spray to areas infested with mosquitoes.
Medium vegetation. Must not be used in residential areas, around homes, in public spaces or in publicly accessible commercial or industrial areas			60mL/ha	
Heavy vegetation. Must not be used in residential areas, around homes, in public spaces or in publicly accessible commercial or industrial areas			105mL/ha	
Light to Medium vegetation. Must not be used in residential areas, around homes, in public spaces or in publicly accessible commercial or industrial areas.	Mosquito adults	All States	60mL/ha	
Medium to Heavy vegetation. Must not be used in residential areas, around homes, in public spaces or in publicly accessible commercial or industrial areas.			105mL/ha	
Polluted Water Impoundments	Mosquitoes (larvae and adults)		2mL/10,000L water/ha or 20mL/100m <sup>2</sup>	
Hides/ skins	Hide beetles	All States	200mL/100L water/ha. Use at least 30mL of spray/skin	Apply spray to flesh side of skins or hides sufficient to moisten them. Ensure coverage of ears and lugs. To minimise the chance of later infestation, storage areas should be sprayed regularly. Repeat application every three months. Access through bales should be maintained for application of insecticides.

SITUATION	INSECT	STATE	RATE	WHP <sup>1</sup>	CRITICAL COMMENTS
Commercial Turf to which the public does not have access	Crickets	Qld, WA only	2.5kg/ha bran bait <sup>2</sup>	2 days (Grazing)	Baits should only be used on turf farms not on recreational turf. See <i>General Instructions for Bait preparation</i> .
	Funnel ant	Qld, WA, NSW only	<i>Field Application:</i> 2L/ha <i>Spot Spraying:</i> 5mL/5L water		For spot spraying apply 30mL spray to each mound. In areas of high density repeat application may be necessary to ensure thorough mound coverage.
	African black beetle	Qld, NSW, Vic, WA only	6L/ha or 60mL/100m <sup>2</sup>		Apply to lawn when pests appear. Water in immediately after application.
	Argentine stem weevil	NSW, Vic, Tas, SA, WA only	4L/ha or 40mL/100m <sup>2</sup>		Lightly water following application. Apply as late in the day as possible.
	Blackheaded pasture cockchafer		900mL/ha or 9mL/100m <sup>2</sup>		Use sufficient water to give even coverage. Apply as late in the day as possible.
	Brown pasture looper		700mL/ha or 7mL/100m <sup>2</sup>		Apply when pests first appear.
	Pasture webworm				Spray at first sign of damage. Apply with ground-rig boom or mister. Apply as late in the day as possible.
	Lawn armyworm	Qld, NSW, Vic, SA, WA only			Spray over total lawn area when infestation is present. When pests are moving treat strip over and in advance of infestation. Apply follow-up treatments as required.
	Sod webworm	All States			Apply as soon as pests appear. Repeat as required.



## Attachment 1

SITUATION	INSECT	STATE	RATE	WHP <sup>1</sup>	CRITICAL COMMENTS
	Underground grass grub ( <i>Oncopeltus fasciculatus</i> )	NSW, Vic, SA, WA only	900mL/ha or 9mL/100m <sup>2</sup>		Apply when caterpillars are actively feeding. Spray before noticeable damage has occurred. Apply as late in the day as possible.
	Winter Corbie ( <i>Oncopeltus ruficornis</i> ) Corbie ( <i>Oncopeltus intricata</i> )	Tas only	900mL/ha		Apply May to July for Winter Corbie and August to September for Corbie.
	Crickets	Qld only	20mL/20L water/ha		Apply as required preferably late in the day.

1. Refer Withholding Period Statements below.

2. Refer to Mixing instructions on preparation of bran bait.

3. Including: asparagus, beans, beetroot, broccoli, brussels sprouts, cabbages, cauliflowers, capsicums, carrots, celery, eggplants, onions, peas, potatoes, radishes, rhubarb, shallots, sweet potatoes, tomatoes and turnips.

4. Refer to mixing instructions on preparation of cracked wheat or cracked sorghum bait.

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

### GENERAL INSTRUCTIONS

Before opening, carefully read Directions for Use, Precautionary Statements, Safety Directions and First Aid Instructions. Thorough coverage is essential.

### MIXING

Slowly add the required amount of this product to water in spray tank under agitation. The special formulation of this product ensures rapid mixing.

### AERIAL APPLICATION

For application by aircraft apply in 10-50L water per hectare.

### 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 water 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 100L 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 1500L/ha
2. Your chosen concentrate spray volume: For example 500L/ha
3. The concentration factor in this example is: 3X (i.e. 1500L ÷ 500L = 3)
4. If the dilute label rate is 10mL/100L, then the concentrate rate becomes 3 x 10 that is 30mL /100L of concentrate spray.

The chosen spray volume, amount of product per 100L 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.

### SOIL APPLICATION

#### PREPARATION OF BRAN BAIT

Mix 10mL of this product per kg of bran using sufficient water to give a moist crumb structure. Allow to stand for 2-3 hours before application. Gloves should be worn when preparing and applying bait.

#### PREPARATION OF CRACKED WHEAT OR CRACKED SORGHUM BAIT

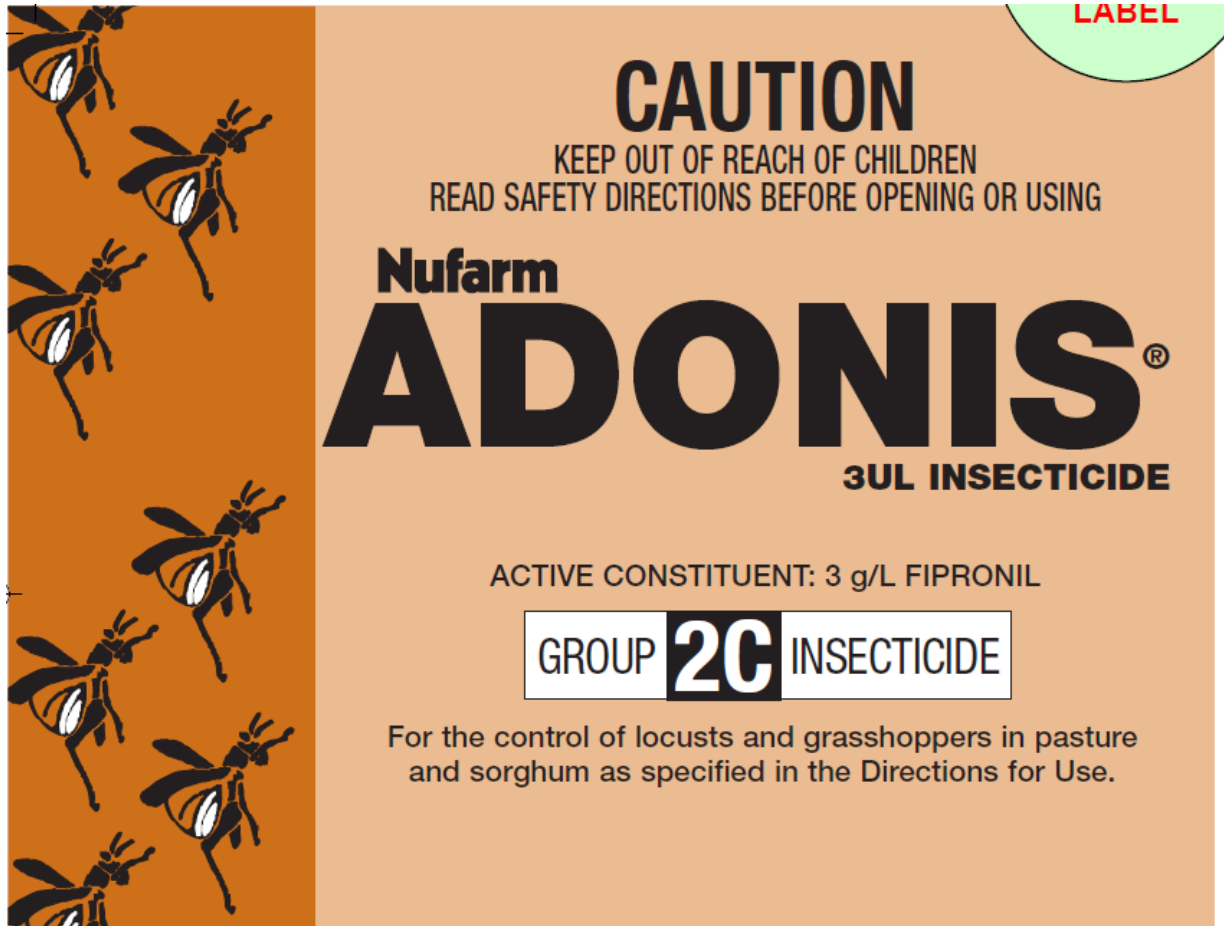
Mix the required volume of this product and sunflower oil together. Then, add to the wheat or sorghum, mixing thoroughly. Gloves should be worn when preparing the bait.

### SPRAY DRIFT MINIMISATION

Spray drift may occur under adverse meteorological conditions or from certain spray equipment. DO NOT allow spray to drift onto sensitive areas including, but not limited to, natural streams, rivers or waterways and human dwellings. A spray drift management strategy such as those in the 'Best Management Practices Manual for Cotton Growers' or the 'Pilots and Operators Manual' should be applied.

Options for minimising drift to sensitive areas include not spraying within a certain distance of sensitive areas when the wind is blowing towards them (see table for guidance) or ensuring that drifting spray will be intercepted by a catching surface such as a row of shelter trees, an unsprayed row of orchard trees, or hail netting.

Situation	Recommended buffer distance (m)
Orchard (dormant trees, citrus, large trees)	30
Cotton (aerial application)	300
Other crops (aerial application)	100



Nufarm Australia Limited  
ABN 80 004 377 780  
103-105 Pipe Road,  
Laverton North VIC 3026  
Tel: (03) 9282 1000 Fax: (03) 9282 1001



**Contents:**  
**200 Litres**

APVMA Approval No.: 58885/200L/0307

## Attachment 2

### DIRECTIONS FOR USE:

RESTRAINT: DO NOT apply in small field treatments or mixed crop situations.

CROP	PEST	RATE/ha	WHP	CRITICAL COMMENTS
Pasture, Sorghum	Australian plague locust ( <i>Chortolcetes terminifera</i> ), Spur-throated locust ( <i>Austracris guttulosa</i> ), Migratory Locust ( <i>Locusta migratoria</i> ) Wingless grasshopper ( <i>Phaulacridium vittatum</i> ) Small plague grasshopper ( <i>Austroicetes cruciata</i> )	420 mL	14 days (H, G)	<b>Dangerous to bees. Refer to PROTECTION OF LIVESTOCK.</b> Apply undiluted by aircraft through ULV spray units as a spray directly onto locusts. Ensure thorough coverage of foliage. Residual control of these pests provided by Adonis 3UL will vary with conditions. Rainfall will significantly reduce residual control. Residual control will also be reduced when applied directly to bare earth. Where inaccessibility prevents direct spraying of locusts, apply as a barrier treatment (minimum 25 m wide) ahead of advancing hopper bands. DO NOT retreat for 14 days following application. DO NOT apply Adonis 3UL to wet foliage. Adonis 3UL is rainfast after drying on foliage (1 hour). Respray only if rain falls before spray is dry on crop. Mortality will increase to a maximum over a period of 3-15 days after spraying. Speed of kill varies with locust species, temperature and age of adults. Fully mature, adult spur-throated locusts may show symptoms of debilitation 4-48 hours after spraying but in cool weather may take up to 14 days to die. Feeding ceases when debilitation symptoms appear. See also <b>General Instructions.</b> For Small Plague Grasshopper Spray when numbers of grasshoppers are greater than 5/m <sup>2</sup> or 5 bands/km <sup>2</sup> . Target small plague grasshoppers between 3 <sup>rd</sup> instar and adult stages.

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

**WITHHOLDING PERIOD:** (H) = harvest, (G) = grazing

**PASTURE:** DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 14 DAYS AFTER APPLICATION.

**SORGHUM:** DO NOT HARVEST, GRAZE OR CUT FOR STOCK FOOD FOR 14 DAYS AFTER APPLICATION.

**LIVESTOCK WITHHOLDING PERIOD:** WITHHOLD STOCK FROM SLAUGHTER FOR 21 DAYS AFTER APPLICATION, WHERE STOCK WERE PRESENT IN CROP OR PASTURE AT TIME OF APPLICATION.

### GENERAL INSTRUCTIONS

ADONIS 3UL may be used to control adults and/or hoppers.

ADONIS 3UL is effective through both ingestion and contact.

### APPLICATION

Ensure thorough coverage of foliage and visible hoppers.

Nufarm ADONIS 3UL is intended for incremental drift spray application for efficient treatment of large areas. Spray release

should be at 8-10 m height from an aircraft flying on 100 m

track spacing at 90° to wind blowing at 2-8 m/sec.

DO NOT apply ADONIS 3UL in static or unstable

air conditions. If wind is near 8 m/sec, reduce flying height to 5 m.

### INSECTICIDE RESISTANCE WARNING

#### GROUP 2C INSECTICIDE

For insecticide resistance management ADONIS 3UL is a Group 2C insecticide. Some naturally occurring insect biotypes resistant to ADONIS 3UL and other Group 2C insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if ADONIS 3UL or other Group 2C insecticides are used repeatedly. The effectiveness of ADONIS 3UL on resistant individuals could be significantly reduced.

Since the occurrence of resistant individuals is difficult to detect prior to use, Nufarm Australia Ltd accepts no liability for any losses that may result from the failure of ADONIS 3UL to control resistant insects.

ADONIS 3UL may be subject to specific resistance management strategies. For further information contact your local supplier, Nufarm representative or local agricultural department agronomist.

### PRECAUTIONS

#### RE-ENTRY PERIOD

DO NOT allow entry into treated areas until spray has dried.

When prior entry is necessary, wear personal protective equipment as specified in the Safety Directions. Clothing must be laundered after each day's use. Human flaggers, if used in aerial spraying operations, must be protected by 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 nearby non-target plants/crops, cropping lands or pastures.

#### PROTECTION OF LIVESTOCK

Dangerous to bees. DO NOT apply where bees from managed hives are known to be foraging, and crops, weeds or cover crops are in flower at the time of spraying, or are expected to flower within 28 days (7 days for pastures and sorghum).

Before spraying, notify beekeepers to move hives to a safe

location with an untreated source of nectar, if there is potential for managed bees to be affected by the spray or spray drift. If an area has been sprayed inadvertently, in which the crop, weeds or cover crop were in flower or subsequently came into flower, notify beekeepers in order to keep managed bees out of the area for at least 28 days (7 days for pastures and sorghum) from the time of spraying. Where the owner of managed hives in the vicinity of a crop to be sprayed is not known, contact your State Department of Primary Industries/Agriculture, citing the registration number, for assistance in contacting the owner.

#### PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND THE ENVIRONMENT

DO NOT contaminate streams, rivers or waterways with the chemical or used containers. DO NOT spray across open bodies of water. Highly toxic to fish and aquatic organisms. This product will kill susceptible non-target invertebrates, including beneficial species, if they are exposed to drift.

#### STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well-ventilated area. DO NOT store for prolonged periods in 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.

#### Refillable containers (1000L only):

Store in the closed, original container in a cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight. Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

#### SAFETY DIRECTIONS

Will irritate eyes. Avoid contact with eyes. When opening the container and preparing spray, wear elbow-length PVC gloves. Wash hands after use. After each day's use, wash gloves.

#### FIRST AID

If poisoning occurs contact a doctor or Poisons Information Centre. Phone Australia 131126.

#### MATERIAL SAFETY DATA SHEET

For further information refer to the Material Safety Data Sheet (MSDS).

**CONDITIONS OF SALE:** Nufarm Australia Limited ('Nufarm') shall not be liable for any loss injury damage or death whether consequential or otherwise whatsoever or howsoever arising

whether through negligence or otherwise in connection with the sale supply or use or application of this product. The supply of this product is on the express condition that the purchaser does not rely on Nufarm's skill or judgement in purchasing or using the same and every person dealing with this product does so at his own risk absolutely. No representative of Nufarm has any authority to add to or alter these conditions.

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**In case of emergency:**

**Phone 1800 033 498**

**Ask for shift supervisor.**

**Toll free 24 hours.**



CUIR 15415 10/06

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

## **CALTEX ORGANIC SUMMER OIL**

**ACTIVE CONSTITUENT: 831 g/L PETROLEUM OIL**

An emulsifiable, narrow range, spray oil for use as a bulking agent with Green Guard ULV Biological Insecticide for the control of Australian Plague Locust (*Chortoicetes terminifera*) in crops, pastures agricultural areas, forage crops and non-crop areas.

CONTENTS: 20L,

**FOR SUPPLY & USE ONLY UNDER APVMA EMERGENCY USE  
PERMIT  
THIS PRODUCT IS NOT REGISTERED**

Manufactured by: Caltex Australia Petroleum Pty Ltd  
ACN 000 032 128  
2 Market Street  
SYDNEY NSW 2000

**CALTEX TECHNICAL ADVICE LINE: 1300-364-169**



**DIRECTIONS FOR USE:**

This product is to be mixed with the registered product Green Guard ULV Biological Insecticide for the control of Australian Plague Locust in agricultural areas, pastures, crops, forage crops and non-crop areas only.

Apply in accordance with all directions as contained on the Green Guard ULV Biological Insecticide product label for the control of Australian Plague Locust and where this product is used according to those directions for the addition of a 'summer spray oil'.

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

**WITHHOLDING PERIOD: DO NOT APPLY LATER THAN 1 DAY BEFORE HARVEST.**

**GENERAL INSTRUCTIONS**

This product is only for use as a bulking agent with Green Guard ULV Biological Insecticide. This product meets the requirements of USDA organic standards.

**MIXING INSTRUCTIONS**

Thoroughly mix Caltex Organic Summer Oil and Green Guard ULV **Biological Insecticide** at the rates indicated on the Green Guard ULV **Biological Insecticide** label for the control of Australian Plague Locust and then spray out immediately.

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

Do not contaminate streams, rivers or waterways with chemical or used container.

**STORAGE AND DISPOSAL**

Store in the closed, original container in a cool, well ventilated area. Do not store for prolonged periods in direct sunlight. This container can be recycled if it is clean, dry, free of visible residues and has the *drumMUSTER* logo visible. Triple or preferably pressure rinse containers before disposal. Dispose of rinsate by adding it to spray tank. Do not dispose of undiluted chemicals on site. Wash outside of container and the cap. Store cleaned container in a sheltered place with cap removed. It will then be acceptable for recycling at any *drumMUSTER* collection point or similar container management program site. The cap should not be replaced but may be taken separately. 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 500mm 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.

**SAFETY DIRECTIONS**

Keep out of reach of children. Avoid contact with eyes. Wash hands and exposed skin before meals and after work. Use a mist mask when spraying. Avoid inhalation of spray mists. Handle using PVC gloves and safety goggles/glasses.

**FIRST AID**

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia: 131126. If swallowed do NOT induce vomiting, give a glass of water.

**MATERIAL SAFETY DATA SHEET**

Additional information is listed in the Material Safety Data Sheet which is available from the supplier.

**NOTE:** Caltex Australia Petroleum Pty Limited accepts no responsibility for any consequences whatsoever arising from the use of the product other than in accordance with this label.

PERMIT NO: PER12429

Batch No:

Date of Manufacture:

**CALTEX TECHNICAL ADVICE LINE: 1300-364-169**



**CAUTION**

**KEEP OUT OF REACH OF CHILDREN**

**AMPOL D-C-TRATE  
Anti-Evaporant Spray Oil**

**ACTIVE CONSTITUENT: 763 g/L (901 mL/L) PETROLEUM OIL**

An anti-evaporant, wetting agent for use as an adjuvant or carrier to enable certain insecticides and herbicides to be effectively applied by spraying.

**CONTENTS: 20L, 205L, 1000L**

Infopest verifies that this label is consistent with the  
NRA Approved Text Label

## **Attachment 4**

### **DIRECTIONS FOR USE:**

When Ampol D-C-Trate is applied by high volume sprayers the dosage rate should be 1.0% by volume of the total spray mixture. When Ampol D-C-Trate is applied by Ultra Low Volume sprayers the dosage rate should be between 25% and 50% by volume of the total spray mixture. The lower rates are recommended for normal conditions and the higher rates for very dry conditions.

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

**WITHHOLDING PERIOD – DO NOT APPLY LATER THAN ONE DAY BEFORE HARVEST**

### **GENERAL INSTRUCTIONS**

Ampol D-C-Trate is an anti-evaporant, wetting agent for use as an adjuvant or carrier to enable certain herbicides to be applied effectively by spraying. The function of D-C-Trate is to improve the targeting, spreading and wetting action of the selected herbicide and to improve penetration through the waxy cuticle into the unwanted plant or weed. It also reduces the rate of evaporation of the herbicide mixture during spraying and on the target plant. Ampol D-C-Trate may also be used to achieve similar benefits with certain other plant protection chemicals (fungicides and insecticides).

### **Mixing Instructions**

Add Ampol D-C-Trate to the pre-mixed water solution or suspension of crop protection chemical (herbicide, insecticide, fungicide) in the mixing tank just prior to the start of spraying. Maintain continuous agitation while spraying.

### **Compatibility**

Ampol D-C-Trate is not compatible with wettable sulphur (including compounds containing sulphur such as lime sulphur) or organo mercury compounds and Dinocap.

### **PROTECTION OF LIVESTOCK, FISH, CRUSTACEA AND ENVIRONMENT**

DO NOT contaminate streams, rivers or waterways with the chemical or used container.

## **Attachment 4**

### **STORAGE AND DISPOSAL**

Store in the closed, original container in a cool, well ventilated area. Do not store for prolonged periods in 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 container 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 500mm 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.

For 1000L containers - Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

### **FIRST AID**

If poisoning occurs, contact a doctor or Poisons Information Centre (Tel: 131126). If swallowed do NOT induce vomiting. Give a glass of water.

Additional information is listed in the Material Safety Data Sheet.

### **NOTICE TO BUYER**

Caltex accepts no responsibility for any consequence whatsoever arising from the use of the product other than used in accordance with this label.

NRA Approval No: 41104/1198

Batch No:

Date of Manufacture:

Manufactured by: Caltex Australia Petroleum Pty Ltd  
ACN 000 032 128  
19-29 Martin Place  
SYDNEY NSW 2000

**CALTEX TECHNICAL ADVICE LINE: 1-800 815 823**