

POISON

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

TITAN

ALPHA-CYPERMETHRIN 250 SC INSECTICIDE

ACTIVE CONSTITUENT: 250g/L ALPHA-CYPERMETHRIN

GROUP **3A** INSECTICIDE

For the control of certain insect pests, including Redlegged Earth Mite on certain field crops and pastures and certain Insect pests on fruit and vegetable crops as indicated in the Directions for Use table.

APVMA Approval No.: 80598/101241

Pack Size: 5L; 20L



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IN A TRANSPORT EMERGENCY

DIAL 000

POLICE OR FIRE BRIGADE

TRANSPORT AND HANDLING
NOT A DANGEROUS GOOD
ACCORDING TO THE AUSTRALIAN
DANGEROUS GOODS (ADG) CODE
FOR TRANSPORT BY ROAD AND RAIL

DIRECTIONS FOR USE

Restraint: DO NOT apply if rain is expected within 6 hours after application.

Note: This product is ineffective against synthetic pyrethroid resistant *Helicoverpa armigera* larvae longer than 5mm. All *Helicoverpa armigera* in NSW and QLD should be treated as being resistant to synthetic pyrethroids. Refer to RESISTANCE MANAGEMENT under GENERAL INSTRUCTIONS. This product is ineffective against synthetic pyrethroid resistant *Plutella xylostella*.

CROP	INSECT PESTS	STATE	RATE	WHP	CRITICAL COMMENTS
Banksias	Banksia Moth (<i>Danimia banksiae</i>)	WA only	8mL/100L	–	Apply on a regular programme at 2 weeks intervals at early flower development. Commence spraying when blooms are immature and continue until flowers are fully developed.
Broccoli, Brussels Sprouts, Cabbages, Cauliflowers, Chinese Cabbage, Kale, Kohlrabi, Turnips	Cabbage Moth (<i>Plutella xylostella</i>), Cabbage White Butterfly (<i>Pieris rapae</i>), <i>Helicoverpa punctigera</i> , <i>Helicoverpa armigera</i>	ALL STATES	LOW VOLUME 160mL/ha	1 day (Harvest)	Apply according to pest incidence. When reinfestation is continuous, treatment every 7-10 days may be required. Add a non-ionic wetting agent at recommended label rate. LOW VOLUME: Ground Rig Application: Apply in 100 to 600L of water per hectare as a fine spray (ie. A droplet size of 100 to 200 microns). Aerial Application: Apply in 20 to 60L of water per hectare as a spray of 100 to 150 microns droplet size. HIGH VOLUME: Gradually increase the spray volume as the plants grow, from 600L/ha just after transplanting to 1000L/ha at maturity. Apply as a medium spray (ie. A droplet size of 200 to 400 microns VMD). <i>Helicoverpa armigera</i> in NSW and QLD. Follow the application directions for the pest above. Apply as required according to pest incidence. Thorough and frequent crop checks are essential. Preferably apply to eggs. Apply to larvae only if they are less than 5mm long.
	Cluster Caterpillar (<i>Spodoptera litura</i>)	ALL STATES	HIGH VOLUME 20mL/100L		
Canola	Native Budworm (<i>Helicoverpa punctigera</i>)	NSW, VIC, TAS, SA, WA only	80 or 120mL/ha	21 days (cutting for harvest or stockfeed or grazing)	DO NOT apply more than a total 160mL/ha per season to any one crop. Inspect the crop regularly during and immediately after flowering. Apply when damaging pest numbers first appear on the crop and repeat if necessary.
	Tobacco Looper (<i>Chrysodeixis argentiifera</i>)	NSW, TAS, VIC, SA only	80 or 120mL/ha		For aerial application, use a total volume of 30-35L/ha and apply in the cooler part of the day. Use the higher rate if larvae longer than 10mm are present.
	Vegetable Weevil (<i>Listroderes difficilis</i>)	NSW, ACT, VIC, TAS, SA, WA only	160mL/ha		Crops should be inspected as they emerge. Border sprays are required to control invading adults. Apply when cotyledons and leaves are being eaten or the plant lopped. Repeat as necessary.
	Redlegged Earth Mite (<i>Halotydeus destructor</i>)	ALL STATES except NT and QLD	40mL/ha		Pre-emergence: Apply by ground rig only. Treat infested paddocks after sowing but prior to crop emergence when soil is moist. Monitor Redlegged Earth Mite numbers and re-treat if necessary.
	Redlegged Earth Mite, Blue Oat Mite (<i>Penthaleus major</i>)		20mL/ha		Apply when mite numbers reach damaging levels. DO NOT apply as a pre-emergence treatment.
Cotton	Native Budworm (<i>Helicoverpa punctigera</i>)	QLD, NSW, WA, NT only	120mL/ha	14 days (Harvest)	Apply as indicated by field checks using rates appropriate for the infestation level determined. Application should be timed to coincide with egg hatching and before larvae are in protected feeding sites. Apply when there are up to 75 eggs and/or up to 5 larvae less than 5mm long per 100 terminals.
			160mL/ha		Apply when there are up to 150 eggs and/or up to 10 larvae less than 5mm long per 100 terminals and/or when larvae between 5 and 10mm are present.
			200mL/ha		Apply when there are up to 150 eggs and/or more than 10 larvae less than 5mm long per 100 terminals and/or when larvae longer than 10mm are present.
	Cotton Bollworm (<i>Helicoverpa armigera</i>)		120mL/ha		Preferably apply to eggs. Apply to larvae only if they are less than 5mm long. Apply when there are up to 75 eggs and/or up to 5 larvae less than 5mm long per 100 terminals.
			160mL/ha		Apply when there are up to 150 eggs and/or up to 10 larvae less than 5mm long per 100 terminals.
			200mL/ha		Apply when there are more than 150 eggs and/or more than 10 larvae less than 5mm long per 100 terminals.
	Rough Bollworm (<i>Earias huegeli</i>)		120 or 160mL/ha		Apply when an average of 2 or more larvae are present per 100 bolls. It is essential to detect and treat infestations in the early stages before larvae are established or concealed in bolls deep in the canopy. Use the higher rate if larvae longer than 10mm are present. Best results will be obtained by applying at egg hatch.

CROP	INSECT PESTS	STATE	RATE	WHP	CRITICAL COMMENTS
Cereals (Winter)	Cutworm (<i>Agrotis</i> spp.)	NSW, ACT, VIC, SA, WA only	30mL/ha	7 days (Harvest) 14 days (Stubble grazing)	DO NOT apply more than a total of 216mL/ha per season to any one crop. Check emerging and establishing crops in the late afternoon and evening for caterpillars crawling on the soil surface and feeding on the seedlings. Spray in late afternoon or evening.
		QLD only	30 or 60mL/ha		In QLD, use the higher rate when the infestation is severe, or when there are larvae longer than 10mm, or when longer residual activity is required.
	Webworm (<i>Hednota</i> spp.)	NSW, VIC, SA, WA only	30mL/ha		Pre-planting: May be applied with knock-down herbicides prior to planting. Apply from the last week in May when the larvae have emerged. DO NOT apply to dense pasture. All pasture should be closely grazed prior to application to ensure adequate spray penetration. Apply in minimum of 100L of water per hectare. Repeat as required. Post-crop emergence: Inspect crop regularly from emergence and apply at the first sign of pest activity. Repeat as required.
	Common Armyworm (<i>Mythimna convecta</i>), Southern Armyworm (<i>Persectania ewingii</i>)	ALL STATES	96mL/ha		Apply before "head lopping" occurs and when there are 2 or more larvae per square metre. Spray in the cool of the day (usually late afternoon) when larvae are most active. Ensure the spray penetrates the crop. This rate is effective on larvae up to 20mm in length. Monitor crop closely and re-treat if necessary. Poor control may occur in crops that have lodged. See application section for correct water rates.
	Redlegged Earth Mite (<i>Halotydeus destructor</i>)	NSW, ACT, VIC, TAS, SA, WA only	40mL/ha		Pre-emergence: Apply by ground rig only. Treat infested paddocks after sowing but prior to crop emergence when soil is moist. Monitor Redlegged Earth Mite numbers and re-treat if necessary.
	Redlegged Earth Mite (<i>Halotydeus destructor</i>), Blue Oat Mite (<i>Penthaleus major</i>)	NSW, ACT, VIC, TAS, SA, WA only	20mL/ha		Apply when mite numbers reach damaging levels. Spray seedling crops if silvering or whitening (bleaching) of the leaves is causing a reduction in crop growth. If possible, spray on a calm, mild morning when mites are actively feeding on crop leaves. DO NOT apply as a pre-emergence treatment.
Eucalypt plantations	Aphids (<i>Rhopalosiphum</i> spp.) (Barley Yellow Dwarf Virus vectors)	NSW, ACT, VIC, TAS, SA, WA only	50mL/ha	–	To control aphids, sprays should be applied at 3 and 7 weeks after emergence to reduce aphid colonisation and the spread of Barley Yellow Dwarf Virus. This will also reduce the effect of feeding aphid damage.
Field peas	Adults and larvae of Tasmanian Eucalyptus Leaf Beetle (<i>Chrysophtharta bimaculata</i>)	TAS only	100mL/ha	–	Apply by fixed wing aircraft or by helicopter using hydraulic or Micronair equipment, to the crowns of eucalypt trees. Micronair application in 5 litres of water/ha has proved effective. Apply before insect damage causes severe defoliation. Treatment will control small and large larvae as well as adult beetles.
	Native Budworm (<i>Helicoverpa punctigera</i>)	WA only	64mL/ha	4 weeks (Harvest)	Apply to open, less dense crops when damaging numbers of newly hatched larvae first appear on the crop and repeat as necessary.
	Native Budworm (<i>Helicoverpa punctigera</i>)	NSW, VIC, TAS, SA, WA only	80 or 120mL/ ha		Apply when pest numbers reach damaging levels and repeat if necessary. Use the higher rate if larvae longer than 10mm are present. Best results will be obtained by spraying at egg hatch.
	Pea Weevil (<i>Bruchus pisorum</i>)	NSW, VIC, TAS, SA, WA only	64 or 80mL/ha		Apply during flowering prior to egg laying when the adult weevil population reaches one or more per 25 sweeps of a sweep net. Use the higher rate for longer residual protection.
	Cutworm (<i>Agrotis</i> spp.)		30mL/ha		Check emerging and establishing crops in the late afternoon and evening for caterpillars crawling on the soil surface and feeding on the seedlings. Spray in late afternoon and evening.
	Redlegged Earth Mite (<i>Halotydeus destructor</i>)	NSW, VIC, TAS, SA, WA only	40mL/ha		Pre-emergence: Apply by ground rig only. Treat infested paddocks after sowing but prior to crop emergence when soil is moist. Monitor Redlegged Earth Mite numbers and re-treat if necessary.
	Redlegged Earth Mite (<i>Halotydeus destructor</i>), Blue Oat Mite (<i>Penthaleus major</i>)		20mL/ha		Apply when mite numbers reach damaging levels. DO NOT apply as a pre-emergence treatment.
Grapevines (non-bearing)	Pink Cutworm (<i>Agrotis munda</i>), Apple Weevil (Curculio beetle) (<i>Otiorhynchus cribricollis</i>), Garden Weevil (<i>Phlyctinus callosus</i>)	NSW, VIC, TAS, SA, WA only	40mL/100L	–	Monitor young vines during spring and early summer and apply at the first signs of leaf damage. Spray the leaves, canes and the soil around each vine to a diameter of 30cm. 70-80mL of dilute spray should be sufficient for each vine. If pest infestation persists, a second application may be required after three weeks.

CROP	INSECT PESTS	STATE	RATE	WHP	CRITICAL COMMENTS
Lettuce	<i>Helicoverpa</i> spp.	ALL STATES	Low Volume 160mL/ha High Volume 20mL/100L	3 days (Harvest)	Thoroughly and regularly check the crop. Apply at the first sign of pest activity. Preferably apply to eggs. Apply to <i>H. armigera</i> ONLY if larvae are less than 5mm long. Repeat according to pest incidence.
Linola	Native Budworm (<i>Helicoverpa punctigera</i>)	WA only	64 or 80mL/ha	12 weeks (Harvest)	DO NOT apply more than a total 160mL/ha per season to any one crop. Inspect the crop regularly during and immediately after flowering. Apply when damaging pest numbers first appear on the crop. For aerial application, apply during the cooler part of the day in a total volume of 30-35L/ha. Use the higher rate if larvae longer than 10mm are present. Refer to application section for water rates.
Linseed	Native Budworm (<i>Helicoverpa punctigera</i>)	NSW, VIC, TAS, SA, WA only	80 or 120mL/ ha	14 days (Harvest)	Inspect the crop regularly during and immediately after flowering. Apply when damaging pest numbers first appear on the crop and repeat if necessary. Use the higher rate if larvae longer than 10mm are present. Best results will be obtained by spraying at egg hatch. Refer to application section for water rates.
	Cutworm (<i>Agrotis</i> spp.)	NSW, ACT, TAS, SA only	30mL/ha		Check emerging and establishing crops in the late afternoon and evening for caterpillars crawling on the soil surface and feeding on seedlings. Spray in late afternoon and evening.
Lucerne (Seed and forage crops)	Native Budworm (<i>Helicoverpa punctigera</i>)	NSW, VIC, TAS, SA, WA only	64mL/ha	14 days (grazing or cutting for stockfeed)	DO NOT apply more than one application per cut or grazing for animal feed. Apply when pest populations reach economically damaging levels. Apply to larvae less than 5mm in length.
	Green Mirid (<i>Creontiades dilutus</i>)				DO NOT apply more than one application per cut or grazing for animal feed. Apply when pest populations reach economically damaging levels.
Lupins	Native Budworm (<i>Helicoverpa punctigera</i>)	NSW, ACT, VIC, SA only	80 or 120mL/ ha	4 weeks (Harvest)	DO NOT apply more than a total of 240mL/ha per season to any one Lupin crop. Apply when damaging pest numbers first appear on the crop and repeat if necessary. Use the higher rate if larvae longer than 10mm are present. Best results will be obtained by spraying at egg hatch.
		WA only	48 or 80mL/ha		Spraying should be timed to precede the first visible damage to the pods. Use the higher rate when the infestation is severe, or when residual activity is required.
	Cutworm (<i>Agrotis</i> spp.)	NSW, ACT, VIC, TAS, SA, WA only	30mL/ha		Check emerging and establishing crops in the late afternoon and evening for caterpillars crawling on the soil surface and feeding on seedlings. Spray in late afternoon and evening.
	Common Armyworm (<i>Mythimna convecta</i>), Southern Armyworm (<i>Persectania ewingii</i>)	NSW, ACT only	96mL/ha		Spray in the cool of the day (late afternoon) when larvae are most active.
	Redlegged Earth Mite (<i>Halotydeus destructor</i>)	NSW, VIC, TAS, SA, WA only	40mL/ha		Pre-emergence: Apply by ground rig only. Treat infested paddocks after sowing but prior to crop emergence when soil is moist. Monitor Redlegged Earth Mite numbers and re-treat if necessary.
	Redlegged Earth Mite (<i>Halotydeus destructor</i>), Blue Oat Mite (<i>Penthaleus major</i>)		20mL/ha		Apply when mite numbers reach damaging levels. DO NOT apply as a pre-emergence treatment.
Maize	Corn Earworm (<i>Helicoverpa armigera</i>)	QLD, NSW, ACT, VIC, NT only	120 or 160 mL/ha	7 days (Harvest)	Thoroughly and regularly check the crop. Apply from early silking according to pest incidence. Use the higher rate if larvae longer than 10mm are present. In QLD, NSW and NT, preferably apply to eggs or apply to larvae only if they are less than 5mm long.
	Native Budworm (<i>Helicoverpa punctigera</i>)	ALL STATES			Thoroughly and regularly check the crop. Apply when infestation reaches an economically damaging level and repeat if necessary. Best results will be obtained by applying at egg hatch. Use the higher rate if larvae longer than 10mm are present.
Mung Beans, Navy Beans	Native Budworm (<i>Helicoverpa punctigera</i>)	Qld, NSW, ACT, NT only	120 or 160 mL/ha	7 days (Harvest)	Crop checking should be aimed to detect larvae as they hatch. Small larvae are easier to kill than large larvae. Apply when the number of larvae feeding on flowers or pods reach 1 to 2 per metre of row. Repeat as required. Use the higher rate when larvae larger than 10mm are present or when canopy is dense. Best results will be obtained by spraying at egg hatch.
	Corn Earworm (<i>Helicoverpa armigera</i>)				Thoroughly and regularly check the crop. Apply when the infestation reaches an economically damaging level and repeat as required. Preferably apply to eggs. In QLD and NSW, apply to larvae only if they are less than 5mm long. Use the higher rate when pest pressure is high.

CROP	INSECT PESTS	STATE	RATE	WHP	CRITICAL COMMENTS
Pastures (legume and grass based pastures)	Wingless Grasshopper (<i>Phaulacridium vittatum</i>)	ALL STATES	64mL/ha	3 days (Grazing) 14 days (Cut for stockfeed)	DO NOT apply more than a total 128mL/ha per season. Apply to infested areas and repeat as necessary. Spraying is most effective on newly emerged hoppers before they begin dispersing. Spray in the warmer parts of the day when hoppers are exposed. Later sprays should be applied before the start of egg laying. Good coverage is essential.
	Brown Pasture Looper (<i>Ciampa arietaria</i>)	NSW, VIC, TAS, SA, WA only	20mL/ha		Apply when pest infestation reaches an economically damaging level.
	Blackheaded Pasture Cockchafer (<i>Aphodius tasmaniae</i>)	NSW, VIC, TAS, SA only	40mL/ha		Spraying is most effective when larvae are detected and treated early. Suspect paddocks should be dug after the first substantial rain in April/May and inspected to ensure grubs are present in sufficient numbers to warrant treatment. Spraying after June will give poorer results.
	Redlegged Earth Mite (<i>Halotydeus destructor</i>)	NSW, ACT, VIC, TAS, SA, WA only			Pre-emergence: Apply by ground rig only. Treat infested paddocks after sowing but prior to crop emergence when soil is moist. Monitor redlegged earth mite numbers and re-treat if necessary.
	Redlegged Earth Mite (<i>Halotydeus destructor</i>), Blue Oat Mite (<i>Penthaleus major</i>)	NSW, ACT, SA, Tas, Vic, WA only	20mL/ha		Apply when mite numbers reach damaging levels. Autumn/Winter Apply 4 to 7 weeks after the opening rains in late autumn/early winter when RLEM are present (2-3 weeks after egg hatch occurs). TITAN Alpha-Cypermethrin 250 SC Insecticide is rainfast after spray deposits have dried on the leaf surface. TITAN Alpha-Cypermethrin 250 SC Insecticide can be mixed with herbicides used for winter cleaning of sub-clover pastures. Spring If RLEM/BOM numbers increase in the spring, spray when damage is observed and again before diapause egg production begins. TITAN Alpha-Cypermethrin 250 SC Insecticide can be mixed with herbicides used for spray topping pastures if timing coincides. DO NOT apply as a pre-emergence treatment.
Pome Fruit: Apples, Pears	Apple Weevil (<i>Otiorhynchus cribricollis</i>), Garden Weevil (<i>Phlyctinus callosus</i>)	NSW, VIC, SA, WA only	40mL/100L water	14 days (Harvest)	Spray approx. 1-2 litres of solution onto the crotch, trunk and the soil at the base of each tree at peak weevil emergence. This is usually late October – late November for Garden Weevil and late November – mid December for Apple Weevil. Monitor weevil emergence using a single sided cardboard trunk band. Continue monitoring after spraying as a second spray may be needed 3-4 weeks later.
Rice (both aerial and drill sown)	Common Armyworm (<i>Mythimna convecta</i>)	NSW only	80mL/ha	7 days	DO NOT apply more than a total 160mL/ha per season to any one crop. Inspect crops regularly for the presence of grubs from flowering onwards. Apply when rice damaging pest numbers first appear. Apply by aircraft in 20-30 litres of water/ha, to drained fields only. Spray in the cool of the day (early morning or late afternoon) when larvae are most active. Monitor crop closely and re-treat if necessary. Poor control may occur in crops that have lodged. See application section for correct water rates.
Sorghum	Corn earworm (<i>Helicoverpa armigera</i>), Native Budworm (<i>Helicoverpa punctigera</i>)	QLD, NSW, ACT, NT only	120 or 160mL/ha	7 days (Harvest)	Crop checking should commence when the head emerges from the boot and continue at daily intervals until the end of flowering for midge and at weekly intervals until maturity for <i>Helicoverpa armigera</i> . DO NOT apply to tight headed varieties. Apply when there are 2 or more actively feeding larvae per head, or when numbers are sufficient to cause economic damage. Use the higher rate if longer residual control is required. Preferably apply to eggs. Apply to <i>H. armigera</i> larvae only if they are less than 5mm long. Repeat as required.
	Sorghum Midge (<i>Contarinia sorghicola</i>)		40 or 80mL/ha		Apply when numbers reach 1 to 2 per head, between head emergence and the end of flowering. Repeat as required. Use the higher rate for increased residual protection.
Soybeans	Native Budworm (<i>Helicoverpa punctigera</i>)	QLD, NSW, ACT, NT only	120 or 160mL/ha	7 days (Harvest)	Thoroughly and regularly check the crop. Apply when the number of larvae feeding on flowers plus pods reaches 1 to 2 per metre of row. Repeat as required. Use the higher rate if larvae longer than 10mm are present. Best results will be obtained by applying at egg hatch.
	Corn Earworm (<i>Helicoverpa armigera</i>)				Thoroughly and regularly check the crop. Apply when numbers are sufficient to cause economic damage. Preferably apply to eggs. In QLD and NSW, apply to larvae only if they are less than 5mm long. Repeat as required. Use the higher rate when pest pressure is high.

CROP	INSECT PESTS	STATE	RATE	WHP	CRITICAL COMMENTS
Stone fruit: Apricots, Nectarines, Peaches, Plums	Apple Weevil (<i>Otiorhynchus cribricollis</i>), Garden Weevil (<i>Phlyctinus callosus</i>)	WA only	40mL/100L water	14 days (Harvest)	Spray approx. 1-2 litres of solution onto the crotch, trunk and soil at the base of each tree at peak weevil emergence. This is usually late October – late November for Garden Weevil, and late November – mid December for Apple Weevil. Monitor weevil emergence using a single sided cardboard trunk band. Continue monitoring after spraying as a second spray 3-4 weeks later may be needed.
Sunflowers	Native Budworm (<i>Helicoverpa punctigera</i>)	QLD, NSW, ACT, VIC, NT only	120 or 160mL/ ha	21 days (Harvest)	TO PROTECT BEES and ensure adequate pollination, application during flowering should be avoided. If application is necessary at flowering, apply early morning or late afternoon when bees are not actively foraging. Crop checking should be aimed to detect larvae as they hatch. Small larvae are easier to kill than large larvae. Apply when the infestation reaches an average of 2-3 larvae per head or when economic damage is occurring. Repeat as required. Apply before the heads turn downwards to ensure adequate coverage. Use the higher rate if larvae longer than 10mm are present. Best results will be obtained by applying at egg hatch.
	Corn Earworm (<i>Helicoverpa armigera</i>)				Thoroughly and regularly check the crop. Apply when numbers are sufficient to cause economic damage. Preferably apply to eggs. In NSW and QLD, apply to larvae only if they are less than 5mm long. Repeat as required. Use the higher rate under heavy pest pressure.
	Grey Cluster Bug (<i>Nysius clevelandensis</i>), Rutherglen Bug (<i>Nysius vinitor</i>)				Apply from budding when adult numbers per plant reach 10 to 15 in dryland crops and 20 to 25 in irrigated crops. After flowering apply when adult numbers on the face of heads reach 20 to 25. Repeat as required. The higher rate should be used when numbers are very high.
	Rutherglen Bug (<i>Nysius vinitor</i>)	VIC, TAS, WA only	100mL/ha		Apply from budding when adult numbers per plant reach 10 to 15 in dryland crops and 20 to 25 in irrigated crops. After flowering, apply when adult numbers on the face of heads reach 20 to 25. Repeat as required.
Sweet Corn	Native Budworm (<i>Helicoverpa punctigera</i>), Corn Earworm (<i>Helicoverpa armigera</i>)	ALL STATES	120 or 160mL/ ha	7 days (Harvest)	Thoroughly and regularly check the crop. The level of cob damage tolerated varies with market requirements. Fresh Market Corn: Apply at 5-8 day intervals, accordingly to pest incidence, from tassel emergence until the silks wither. Processing Corn: Apply from early silking according to pest incidence. Larvae in protected feeding sites within the cob are not effectively controlled. Apply before this situation occurs. Best results will be obtained by applying at egg hatch. Use the higher rate if larvae longer than 10mm are present. To help contain pyrethroid resistance in <i>Helicoverpa armigera</i> in summer crops, do NOT apply to corn earworm longer than 5mm.
Tobacco	Native Budworm (<i>Helicoverpa punctigera</i>), Tobacco Budworm (<i>Helicoverpa armigera</i>)	VIC only	12 or 16mL/ 100L	7 days (Harvest)	Apply from just after transplanting on a 7 to 10 day schedule, according to pest incidence. Apply as a medium to fine spray using hollow and/or solid cone nozzles. The spray volume should be gradually increased as the plants grow, from 200L/ha just after transplanting to 1000L/ha at maturity. Use the higher rate when larvae longer than 10mm are present or when egg laying is intense.
Tomatoes (bush and trellis)	Native Budworm (<i>Helicoverpa punctigera</i>)	ALL STATES	Low Volume: 80, 120 or 160 mL/ha High Volume: 8, 12 or 20 mL/100L	1 day (Harvest)	DO NOT apply to trellis tomatoes by aircraft. Apply on a 7 to 10 day schedule while the pests are active. Use the middle rate when pest activity is high and/or when larvae between 10 and 20mm in length are present. Use the highest rate when larvae longer than 20mm are present and/or when interruption of the schedule enables a very severe infestation to develop.
	Tomato Grub (<i>Helicoverpa armigera</i>)	VIC, TAS, SA, WA only			Low Volume: By ground-rig: Apply in 100 to 400L of water per hectare as a fine spray. By aircraft: Apply in minimum of 10L of water per hectare as a spray of 100 to 150 microns VMD.
	Cluster Caterpillar (<i>Spodoptera litura</i>)	QLD, NSW, ACT, WA, NT only			High Volume: Apply as a medium to fine spray. Gradually increase the spray volume as the plants grow, from 200L/ha just after transplanting establishment to 1000L/ha at maturity.
	Tomato Grub (<i>Helicoverpa armigera</i>)	QLD, NSW, NT only	Low Volume: 120mL/ha High Volume: 12mL/100L		Thoroughly check the crop at 2-3 day intervals from transplanting/emergence. Apply according to pest incidence. Preferably apply to eggs. Apply to larvae only if they are less than 5mm long. Apply using the methods described for Native Budworm above.
	Plague Thrips (<i>Thrips imaginis</i>)	QLD, NSW, ACT, VIC, TAS, WA, NT only	Low Volume: 130mL/ha High Volume: 7.2mL/100L		The crop should be frequently checked when it is flowering for the presence of the pest. Apply when the infestation reaches an economically damaging level, using the application methods described for Native Budworm above.

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

WITHHOLDING PERIODS:

BROCCOLI, BRUSSELS SPROUTS, CABBAGES, CAULIFLOWERS, CHINESE CABBAGE, KALE, KOHLRABI, TOMATOES, TURNIPS:

DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.

LETTUCE: DO NOT HARVEST FOR 3 DAYS AFTER APPLICATION.

PASTURES: DO NOT GRAZE FOR 3 DAYS AFTER APPLICATION.

DO NOT CUT FOR STOCKFEED FOR 14 DAYS AFTER APPLICATION.

MAIZE, MUNG BEANS, NAVY BEANS, RICE, SORGHUM, SOYBEANS, SWEET CORN, TOBACCO: DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.

WINTER CEREALS: DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.

DO NOT GRAZE TREATED STUBBLE FOR 14 DAYS AFTER APPLICATION.

LUCERNE: DO NOT GRAZE OR CUT FOR STOCKFEED FOR 14 DAYS AFTER APPLICATION.

COTTON, LINSEED, POME FRUIT, STONE FRUIT: DO NOT HARVEST FOR 14 DAYS AFTER APPLICATION.

CANOLA: DO NOT GRAZE OR CUT FOR STOCKFEED FOR 21 DAYS AFTER APPLICATION.

DO NOT CUT AND WINDROW FOR HARVEST FOR 21 DAYS AFTER APPLICATION.

SUNFLOWERS: DO NOT HARVEST FOR 21 DAYS AFTER APPLICATION.

FIELD PEAS, LUPINS: DO NOT HARVEST FOR 4 WEEKS AFTER APPLICATION.

LINOLA: DO NOT HARVEST FOR 12 WEEKS AFTER APPLICATION.

GENERAL INSTRUCTIONS

TITAN Alpha-Cypermethrin 250 SC Insecticide is a suspension concentrate which acts as a contact and residual insecticide. It can be used as a protective treatment when applied at regular intervals or as a knockdown treatment to control existing infestation.

MIXING

Shake or roll the container several times before measuring out product to ensure that the ingredients are well mixed. There is no need for pre-mixing. Add the product to the partly filled spray vat while agitating. Continue to agitate while topping up the tank and during spraying. Reseal partly used container immediately after use.

APPLICATION

TITAN Alpha-Cypermethrin 250 SC Insecticide can be applied by ground or aircraft. Thorough coverage is essential to ensure adequate control. Always apply with a non-ionic surfactant unless detailed on the label of a tank mix partner. Apply during the cooler parts of the day or night.

Ground Application: For low volume spraying of field crops with ground rigs, use a total volume of 50-200L/ha except for sweet corn, tomatoes and tobacco where higher volume should be used. Drop arms should be used on ground rigs in row crops taller than 30cm (0.3m). The application should be made as a line spray, preferably using hollow cone nozzles, unless otherwise directed in the Critical Comments.

Aerial application: DO NOT apply to trellis tomatoes by aircraft.

Use a minimum spray volume of 20L/ha.

For spring/early summer application to cereals, linola, canola, rice and to other dense crops, apply in a total spray volume of 30 to 35L/ha.

If possible, spray in a crosswind. Avoid spraying in calm conditions or when wind is light and variable in direction.

Apply as a spray of 100-150 microns VMD.

INSECTICIDE RESISTANCE WARNING

For insecticide resistance management

GROUP 3A INSECTICIDE

TITAN Alpha-Cypermethrin 250 SC

Insecticide is a Group 3A insecticide. Some naturally occurring insect biotypes resistant to TITAN Alpha-Cypermethrin 250 SC Insecticide and other Group 3A insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if TITAN Alpha-Cypermethrin 250 SC Insecticide or other Group 3A insecticides are used repeatedly. The effectiveness of TITAN Alpha-Cypermethrin 250 SC Insecticide on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use TITAN AG Pty Ltd accepts no liability for any losses that may result from the failure of TITAN Alpha-Cypermethrin 250 SC Insecticide to control resistant insects. TITAN Alpha-Cypermethrin 250 SC Insecticide may be subject to specific resistance management strategies. For further information, contact your local supplier, TITAN AG representative or local agricultural department agronomist.

In NSW and QLD, application of this product to *Helicoverpa armigera* larvae longer than 5mm may not only be ineffective but it may increase the level of synthetic pyrethroid resistance. This product should NOT be used to treat infestations that were not controlled by an earlier application of it or another synthetic pyrethroid. Infestations not controlled by this product should be treated with an insecticide from another chemical group.

Application of this product with an insecticide from another chemical group such as NUDRIN® will assist with the management of synthetic pyrethroid resistant *Helicoverpa armigera*.

PRECAUTION

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

RE-ENTRY PERIOD

DO NOT allow entry into treated areas for 12 hours after application. When prior entry is necessary, wear cotton overalls buttoned to the neck and wrist, a washable hat and chemical resistant gloves. Clothing must be laundered after each day's use.

PROTECTION OF LIVESTOCK

Dangerous to bees. DO NOT spray on any plants in flower while bees are foraging. TITAN Alpha-Cypermethrin 250 SC Insecticide is known to have a deterrent effect on foraging bees for a short period of time after spraying. Risk to bees is reduced by spraying in early morning and late evening while bees are not foraging.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Dangerous to fish and aquatic invertebrates. DO NOT contaminate fish ponds, dams, drains, rivers or streams with product or used containers. Drift and runoff from treated areas may be hazardous to fish in adjacent sites.

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 rinse containers before disposal. Add rinsings to the 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 500mm 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

Harmful if inhaled. Will irritate the eyes and skin. Facial skin contact may cause temporary facial numbness. Avoid contact with eyes and skin. DO NOT inhale spray mist. When opening the container, preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist, a washable hat and elbow-length PVC 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 131126; New Zealand 0800 764 766.

SAFETY DATA SHEET

Additional information is listed in the safety data sheet (SDS). A safety data sheet for TITAN Alpha-Cypermethrin 250 SC Insecticide is available from TITAN AG Pty Ltd on request. Call Customer Service on (02) 9999 6655 or visit www.titanag.com.au

CONDITIONS OF SALE: TITAN AG Pty Ltd 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 use or application of this product. The supply of this product is on the express condition that the purchaser does not rely on TITAN AG's skill or judgment in purchasing or using the same and every person dealing with this product does so at his own risk absolutely. No representative of TITAN AG Pty Ltd has any authority to add to or alter these conditions.

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Additional statements required by Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia: Harmful if swallowed. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects. Precautionary Statements: Do not breathe dust/fume/gas/mist/vapours/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell. Rinse mouth. Collect spillage. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Dispose of contents/container in accordance with local/regional/national regulations.

