POISON

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

SUMI-ALPHA® FLEX

INSECTICIDE

ACTIVE CONSTITUENT: 50 g/L ESFENVALERATE
SOLVENT: 744 g/L LIQUID HYDROCARBONS

GROUP **3A** INSECTICIDE

For the control of Certain Insect Pests on Field Crops, Pasture and Vegetable Crops as indicated in the Directions for Use table.

GENERAL INSTRUCTIONS

MIXING AND APPLICATION:

This product may be mixed with water or oil and applied by air or ground equipment. In common with other non-systemic insecticides, thorough coverage with the chemical is essential for maximum effectiveness.

Water application

Unless otherwise directed in the directions for use table, apply 50 to 200L/ha spray volume for ground application and a minimum of 20L/ha for aircraft application. Ensure thorough coverage. Spray application should be carried out in the cooler parts of the day or night to avoid droplet evaporation. Spray in cross winds. **DO NOT** spray in calms or when wind is light and variable in direction unless smoke indicators show spray is entering the crop uniformly.

DO NOT mix with hard water. It is advisable to add Monsoon* or equivalent wetting agent at 30 mL per 100 L spray mixture just before spray tank is filled. Add the required amount of Sumi-Alpha Flex to water in the spray tank and mix thoroughly. Sprays containing Sumi-Alpha Flex should be used within 3 hours of preparation and they should be agitated continuously during this period.

Ultra Low Volume (ULV) Application

Apply in a minimum of 1.5L spray volume/ha. Use only equipment that delivers a droplet size of approximately 80-100 microns. Add the required amount of Sumi-Alpha Flex Insecticide (see directions for use table) to mineral spraying oil and mix thoroughly. Ensure that water is drained from the aircraft hopper and spray lines before using Sumi-Alpha Flex Insecticide mixed with mineral oil. Spray application should be carried out in the cooler parts of the day or night to avoid droplet evaporation. Spray in cross winds.

DO NOT spray in calms or when wind is light and variable in direction unless smoke indicators show spray is entering the crop uniformly.

Insecticide Resistance Warning

GROUP **3A** INSECTICIDE

For insecticide resistance management Sumi-Alpha Flex Insecticide is a Group 3A insecticide.

Some naturally-occurring insect biotypes resistant to Sumi-Alpha Flex 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 Sumi-Alpha Flex Insecticide or other Group 3A Insecticides are used repeatedly. The effectiveness of Sumi-Alpha Flex Insecticide on resistant individuals could be significantly reduced. Since the occurrence of resistant individuals is difficult to detect prior to use, Sumitomo Chemical Australia Pty Ltd accepts no liability for any losses that may result from the failure of Sumi-Alpha Flex Insecticide to control resistant insects.

Sumi-Alpha Flex Insecticide may be subject to specific resistance strategies. For further information contact your local supplier, Sumitomo Chemical Australia Pty Ltd representative or local department of agriculture agronomist.

RESISTANCE MANAGEMENT:

Follow the guidelines for insecticide resistance management issued by relevant state agricultural authorities. In NSW and Qld, application of this product to *Helicoverpa armigera* larvae longer than 5 mm 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.

COMPATIBILITY:

1) When this product is mixed with WATER the following compatibilities apply:

This product is compatible with Dithane* M45, Kelthane* EC, Kocide*, Nudrin* Insecticide, Nudrin* 225, Parathion* 50EC, Parathion* M50, Predator* 300, Ridomil*, Wuxal* and PBO Synergist when mixed according to the directions on the PBO Synergist label.

DO NOT mix Sumi-Alpha Flex Insecticide with wettable powders BEFORE addition to the spray tank.

2) When this product is mixed with OIL the following compatibilities apply:

This product should be mixed only with specific non-

aqueous ULV formulations of other insecticides, e.g. Azodrin* 400, Nudrin* 225 and Predator* 300.

PROTECTION OF LIVESTOCK:

Dangerous to bees. Do NOT spray on any plants in flower while bees are foraging.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT:

Dangerous to fish. Do NOT contaminate ponds, waterways and drains with product or used containers.

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 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 refillable containers: Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

SAFETY DIRECTIONS:

May 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 preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length PVC gloves and face shield. 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, face shield and contaminated clothing.

FIRST AID:

If poisoning occurs, contact a doctor or Poisons Information Centre (Tel. 131126).

If swallowed, and if more than 15 minutes from a hospital, induce vomiting, preferably using Ipecac Syrup APF.

If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

MATERIAL SAFETY DATA SHEET:

Additional information is listed in the Material Safety Data Sheet (MSDS).

NOTICE TO BUYER

Sumitomo Chemical Australia Pty Ltd will not accept any responsibility whatsoever and howsoever arising and whether for consequential loss or otherwise in connection with the supply or use of these goods other than responsibility for the merchantable quality of the goods and such responsibilities mandatory imposed by Statutes applicable to the sale or supply of these goods. To the extent allowed by such statutes the liability of Sumitomo Chemical Australia Pty Ltd is limited to the replacement of the goods or (at the option of Sumitomo Chemical Australia Pty Ltd) the refund of the price paid and is conditional upon a claim being made in writing and where possible sufficient part of the goods to enable proper examination being returned to Sumitomo Chemical Australia Pty Ltd.

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NRA Approval No: 53047/1200

PESTICIDE LIQUID, TOXIC, N.O.S. (CONTAINS ESFENVALERATE) UN No. 2902 PACKAGING GROUP III HAZCHEM 3X	
In a Transport Emergency Dial 000 Police or Fire Brigade	
SPECIALIST ADVICE IN EMERGENCY ONLY ALL HOURS - AUSTRALIA WIDE 1800 024 973	

DIRECTIONS FOR USE

Restraint

Do NOT apply if rain is expected within 6 hours.

NOTE: This product is ineffective against synthetic pyrethroid resistant *Helicoverpa armigera* larvae longer than 5 mm. Refer to Resistance Management under General Instructions.

CROP	INSECT PESTS	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS
Brassica crops: Cabbages, Cauliflowers, Brussel sprouts, Broccoli, Kale, Kohlrabi	Cabbage moth *(Plutella xylostella)*	Qld, NSW, WA only	Low Volume: 250 mL/ha High Volume: 25 mL/100 L	2 days (Harvest)	Commence application when pests first appear and repeat every 7-10 days or as indicated by pest activity. **Low Volume**: Use rate indicated when volumes lower than those recommended for high volume are used. **High Volume**: The total spray volume per hectare will depend on plant size at time of application but as a general rule the total volume per hectare should progressively increase from 250 litres per hectare on young plants to 1,500 litres per hectare on mature crops.
	Cabbage white butterfly *(Pieris rapae)*, *Helicoverpa punctigera*, *Helicoverpa armigera*, and Cabbage Centre grub *(Hellula hydralis)*		Low Volume: 380 mL/ha High Volume: 25 mL/100 L		*Helicoverpa armigera* in NSW and QLD: 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 5 mm long.
	Cabbage white butterfly *(Pieris rapae)*, Cabbage moth *(Plutella xylostella)*	Vic, Tas, SA only	Low pest activity: 190-250 mL/ha High pest activity: 250-380 mL/ha		Commence application when pests first appear and repeat every 7-10 days. During periods of low pest activity (up to 5 eggs and/or 2-3 grubs less than 1 cm per plant are present), use the low rate. During periods of high pest activity (continuous egg laying and/or where grubs over 1 cm are present) use the high rate. The total spray volume per hectare will depend on plant size at time of application but as a general rule, the total volume per hectare should progressively increase from 250 litres per hectare on young plants to 1,500 litres per hectare on mature crops.
	Helicoverpa punctigera, *Helicoverpa armigera*, and Cabbage Centre grub *(Hellula hydralis)*		380 mL/ha		Commence application when pests first appear and repeat every 7-10 days. The total spray volume per hectare will depend on plant size at time of application but as a general rule, the total volume per hectare should progressively increase from 250 litres per hectare on young plants to 1,500 litres per hectare on mature crops.
Broad beans	Plague thrips *(Thrips imaginis)*	Sthn NSW, Vic, Tas, SA, WA only	130 mL/ha	14 days (Harvest) 7 days (Grazing)	Apply when infestation reaches an economically damaging level and repeat if necessary.
	Native Budworm *(Helicoverpa punctigera)*		130, 200 or 330 mL/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. Use the 130 mL/ha rate when larvae are less than 1 cm in length. Use the 200 mL/ha rate when larvae between 1 and 2 cm in length are present. Use the 330 mL/ha rate when larvae longer than 2 cm are present.
Canola	Cabbage white butterfly *(Pieris rapae)*, Cabbage centre grub *(Hellula hydralis)*	Vic, Tas, SA, WA only	400 to 500 mL/ha	14 days (Harvest) 7 days (Grazing)	Apply when infestation reaches an economically damaging level and repeat if necessary. In conditio ns of high pest activity use 500 mL/ha. **NOTE:** Based on economic thresholds, the South Australian Department of Agriculture have advised that treatment for the control of Cabbage moth larvae in canola in SA should be based on the following: Monitor the density of Cabbage moth larvae in the crop by randomly selecting about 20 plants. Cut each plant at its base and shake it into a sweepnet. Count those Cabbage moth larvae that are longer than 3-4 mm. Spray when the average number of these large larvae is equal to or greater than -1 larva per plant during the vegetative to mid-flowering stage -2 larvae per plant during mid to late flowering stage, or -5 larvae per plant during the pod maturation stage.
	Cabbage moth *(Plutella xylostella)*		250 mL/ha		
	Native budworm *Helicoverpa punctigera)*	Sthn NSW, Vic, Tas, SA, WA Only	130, 200 or 330 mL/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. Use the 130 mL/ha rate when larvae are less than 1 cm in length. Use the 200 mL/ha rate when larvae between 1 and 2 cm in length are present. Use the 330 mL/ha rate when larvae longer than 2 cm are present.
	Brown pasture looper *(Ciampa arietaria)*, Cutworm *(Agrotis spp.)*	WA only	70 mL/ha		Apply when infestation reaches an economically damaging level and repeat if necessary.
Celery	Lucerne leaf roller *(Merophyas divulsana)*	WA only	50 mL/100 L	1 day (Harvest)	Spray to run-off. Commence application one week after planting and apply every 7 days until harvest.
Cereals, pastures	Cutworm *(Agrotis spp.)*	WA only	70 mL/ha	7 days (Harvest) 7 days (Grazing)	Apply according to pest incidence and repeat as required.

CROP	INSECT PESTS	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS
Chickpeas	Plague thrips *(Thrips imaginis)*	Qld, Sthn NSW, Vic, Tas, WA only	130 mL/ha	14 days (Harvest) 7 days (Grazing)	Apply when infestation reaches an economically damaging level and repeat if necessary.
	Native budworm *(Helicoverpa punctigera)*	Sthn NSW, Vic, Tas, WA only	130, 200 or 330 mL/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. **U**se the 130 mL/ha rate when larvae are less than 1 cm in length. Use the 200 mL/ha rate when larvae between 1 and 2 cm in length are present. Use the 330 mL/ha rate when larvae longer than 2 cm are present.
		Qld only	400 or 500 mL/ha		Crop checking should be aimed to detect larvae as they emerge. Small larvae are easier to kill than large larvae. Apply when infestation reaches an economically damaging level and repeat if necessary. Use the higher rate when large larvae are present.
	Helicoverpa armigera		500 mL/ha		Apply only to larvae less than 5 mm long. Crop checking should be aimed to detect larvae as they emerge. Apply when infestation reaches an economically damaging level and repeat if necessary.
Chou Moellier, fodder rape	Cabbage white butterfly *(Pieris rapae),* Cabbage centre grub *(Hellula hydralis)*	Vic, Tas, SA, WA only	400 to 500 mL/ha	2 days (Harvest) 2 days (Grazing)	Apply when infestation reaches an economically damaging level and repeat if necessary. In conditions of high pest activity, use 500 mL/ha.
	Cabbage moth *(Plutella xylostella)*		250 mL/ha		
	Native budworm *Helicoverpa punctigera)*	Sthn NSW, Vic, Tas, SA, WA only	130, 200 or 330 mL/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. Use the 130 mL/ha rate when larvae are less than 1 cm in length. Use the 200 mL/ha rate when larvae between 1 and 2 cm in length are present. Use the 330 mL/ha rate when larvae longer than 2 cm are present.
	Brown pasture looper *(Ciampa arietaria),* Cutworm *(Agrotis spp.)*	WA only	70 mL/ha		Apply when infestation reaches an economically damaging level and repeat if necessary.
Cotton	*Helicoverpa punctigera, Helicoverpa armigera*	Qld, NSW only	500 to 700 mL/ha	7 days (Harvest)	The pest population should be carefully monitored to detect economic increase in eggs and/or larvae. Application intervals will vary depending on the frequency and size of new egg lays, weather and crop growth. Applications should be timed to coincide with egg hatching and/or before larvae are entrenched in protected feeding sites. Sumi-alpha Flex Insecticide can be applied at the low rate when larvae are small and pressure is low, but it is recommended that the full rate be applied at all other times. This product is ineffective against synthetic pyrethroid resistant *Helicoverpa armigera* larvae larger than 5mm. Refer to Resistance Management under General Instructions.
	Pink spotted bollworm *(Pectinophora scutigera)*	Central Qld only			Controlled by *Helicoverpa* programme.
			400 mL/ha		Apply at this rate when Pink spotted bollworm is only pest present and repeat if necessary.
Field peas	Cutworm *(Agrotis spp.)*	WA only	70 mL/ha	14 days (Harvest) 7 days (Grazing)	Apply when damage is first noticed in the seedling stage of the crop.
	Plague thrips *(Thrips imaginis)*	Sthn NSW, Vic, Tas, SA, WA only	130 mL/ha		Apply when infestation reaches an economically damaging level and repeat if necessary.
	Native budworm *(Helicoverpa punctigera)*		130, 200 or 330 mL/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. Use the 130 mL/ha rate when larvae are less than 1 cm in length. Use the 200 mL/ha rate when larvae between 1 and 2 cm in length are present. Use the 330 mL/ha rate when larvae longer than 2 cm are present.
Garden peas	Plague thrips *(Thrips imaginis)*	Sthn NSW, Vic, Tas, SA, WA only	130 mL/ha	14 days (Harvest) 7 days (Grazing)	Apply when infestation reaches an economically damaging level and repeat if necessary.
	Native budworm *(Helicoverpa punctigera)*		130, 200 or 330 mL/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. Use the 130 mL/ha rate when larvae are less than 1 cm in length. Use the 200 mL/ha rate when larvae between 1 and 2 cm in length are present. Use the 330 mL/ha rate when larvae longer than 2 cm are present.
		Qld only	400 or 500 mL/ha		Crop checking should be aimed to detect larvae as they emerge. Small larvae are easier to kill than large larvae. Apply when infestation reaches an economically damaging level and repeat if necessary. Use the higher rate when large larvae are present.
	Helicoverpa armigera		500 mL/ha		Apply only to larvae less than 5 mm long. Crop checking should be aimed to detect larvae as they emerge. Apply when infestation reaches an economically damaging level and repeat if necessary.

CROP	INSECT PESTS	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS
Green beans	Plague Thrips *(Thrips imaginis)*	Sthn NSW, Vic, Tas, SA, WA only	130 mL/ha	3 days (Harvest) 7 days (Grazing)	Apply when infestation reaches an economically damaging level and repeat if necessary.
	Native budworm *(Helicoverpa punctigera)*		130, 200 or 330 mL/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. Use the 130 mL/ha rate when larvae are less than 1 cm in length. Use the 200 mL/ha rate when larvae between 1 and 2 cm in length are present. Use the 330 mL/ha rate when larvae longer than 2 cm are present.
Lentils	Plague Thrips *(Thrips imaginis)*	Sthn NSW, Vic, Tas, SA, WA only	130 mL/ha	14 days (Harvest) 7 days (Grazing)	Apply when infestation reaches an economically damaging level and repeat if necessary.
	Native budworm *(Helicoverpa punctigera)*		130, 200 or 330 mL/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. Use the 130 mL/ha rate when larvae are less than 1 cm in length. Use the 200 mL/ha rate when larvae between 1 and 2 cm in length are present. Use the 330 mL/ha rate when larvae longer than 2 cm are present.
Linseed	Native budworm *(Helicoverpa punctigera)*	Sthn NSW, Vic, Tas, SA, WA only	130, 200 or 330 mL/ha	14 days (Harvest) 7 days (Grazing)	Apply when infestation reaches an economically damaging level and repeat if necessary. Use the 130 mL/ha rate when larvae are less than 1 cm in length. Use the 200 mL/ha rate when larvae between 1 and 2 cm in length are present. Use the 330 mL/ha rate when larvae longer than 2 cm are present.
		Qld, Nthn NSW only	400 or 500 mL/ha		Spray at or after flowering when the infestation reaches damaging levels. Crop checking should be aimed to detect larvae as they emerge. Small larvae are easier to kill than large larvae. Use the higher rate when large larvae are present.
	Helicoverpa armigera		500 mL/ha		Apply only to larvae less than 5 mm long. Spray at or after flowering when the infestation reaches damaging levels. Crop checking should be aimed to detect larvae as they emerge.
Lucerne	Plague Thrips *(Thrips imaginis)*	Sthn NSW, Vic, Tas, SA, WA only	130 mL/ha	7 days (Grazing)	Apply when infestation reaches an economically damaging level and repeat if necessary.
	Native budworm *(Helicoverpa punctigera)*	Sthn NSW, Vic, Tas, SA, WA only	130, 200 or 330 mL/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. Use the 130 mL/ha rate when larvae are less than 1 cm in length. Use the 200 mL/ha rate when larvae between 1 and 2 cm in length are present. Use the 330 mL/ha rate when larvae longer than 2 cm are present.
		Qld only	400 or 500 mL/ha		Crop checking should be aimed to detect larvae as they emerge. Small larvae are easier to kill than large larvae. Apply when infestation reaches an economically damaging level and repeat if necessary. Use the higher rate when large larvae are present.
Lupins	Brown pasture looper *(Ciampa arietaria)*	WA only	35 mL/ha	14 days (Harvest) 7 days (Grazing)	Apply according to pest incidence and repeat as required.
	Cutworm *(Agrotis spp.)*		70 mL/ha		
	Plague thrips *(Thrips imaginis)*	Sthn NSW, Vic, Tas, SA, WA only	130 mL/ha		Apply when infestation reaches an economically damaging level and repeat if necessary.
	Native budworm *(Helicoverpa punctigera)*		130, 200 or 330 mL/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. Use the 130 mL/ha rate when larvae are less than 1 cm in length. Use the 200 mL/ha rate when larvae between 1 and 2 cm in length are present. Use the 330 mL/ha rate when larvae longer than 2 cm are present.
					LUPINS IN WA ONLY: Environmental factors may cause populations of small caterpillars to decline, reducing damage potential. Spraying should commence once caterpillars are 12 mm in length.
Maize	Native budworm *(Helicoverpa punctigera)*, Corn earworm *(Helicoverpa armigera)*	Vic, Tas, SA, WA only	300 to 500 mL/ha	7 days (Harvest) 7 days (Grazing)	Crop checking should be aimed to detect larvae as they emerge. Small larvae are easier to kill than large larvae. **Application:** Apply when infestation reaches an economically damaging level and repeat if necessary. Use the higher rate when large larvae are present. **Aircraft:** Apply in a minimum of 20L of water per hectare as a spray of 100 to 150 microns VMD. **Ground Rig:** Apply in 500L water per hectare.
	Corn earworm *(Helicoverpa armigera)*	Qld, NSW only	500 mL/ha		Apply only to larvae less than 5 mm long. Crop checking should be aimed to detect larvae as they emerge. Refer to application details above.
Mung beans	*Helicoverpa punctigera*	Qld only	400 or 500 mL/ha	14 days (Harvest) 7 days (Grazing)	Crop checking should be aimed to detect larvae as they emerge. Small larvae are easier to kill than large larvae. Apply when infestation reaches an economically damaging level and repeat if necessary. Use the higher rate when large larvae are present.
	Helicoverpa armigera		500 mL/ha		Apply only to larvae less than 5 mm long. Crop checking should be aimed to detect larvae as they emerge. Apply when infestation reaches an economically damaging level and repeat if necessary.

CROP	INSECT PESTS	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS
Navy beans	*Helicoverpa punctigera*	Qld, NSW only	400 or 500 mL/ha	14 days (Harvest) 7 days (Grazing)	Apply when there are 1 or more larvae per metre of row. Apply 400 mL/ha rate when larvae are less than 2 cm long. Apply 500 mL/h rate when larvae are longer than 2 cm.
	Helicoverpa armigera		500 mL/ha		Apply when there are 1 or more larvae per metre of row. Apply only to larvae that are less than 5 mm long.
	Soybean looper *Diachrysia orichalcea)*	Qld only	400 or 500 mL/ha		Apply at pod filling stage. Apply 400 mL/ha rate when larvae are small and/or numbers are low. Apply 500 mL/ha rate when larvae are large and/or numbers are high.
Pasture	Brown pasture looper *(Ciampa arietaria)*	WA only	35 mL/ha	7 days (Harvest) 7 days (Grazing)	Apply according to pest incidence and repeat as required.
	Webworm *(Hednota spp.)*	Tas, SA, WA only	70 mL/ha		Apply at the first signs of economic damage. Repeat as required.
Pigeon peas	Plague Thrips *(Thrips imaginis)*	Qld, NSW, Vic Tas, WA only	130 mL/ha	14 days (Harvest) 7 days (Grazing)	Apply when infestation reaches an economically damaging level and repeat if necessary.
	Native budworm *(Helicoverpa punctigera)*	NSW, Vic, WA only	130, 200 or 330 mL/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. Use the 130 mL/ha rate when larvae are less than 1 cm in length. Use the 200 mL/ha rate when larvae between 1 and 2 cm in length are present. Use the 330 mL/ha rate when larvae longer than 2 cm are present.
		Qld only	400 or 500 mL/ha		Crop checking should be aimed to detect larvae as they emerge. Small larvae are easier to kill than large larvae. Apply when infestation reaches an economically damaging level and repeat if necessary. Use the higher rate when large larvae are present.
	Helicoverpa armigera		500 mL/ha		Apply only to larvae less than 5 mm long. Crop checking should be aimed to detect larvae as they emerge. Apply when infestation reaches an economically damaging level and repeat if necessary.
Safflower	Native budworm *(Helicoverpa punctigera)*	Sthn NSW, Vic, Tas, SA, WA only	130, 200 or 330 mL/ha	14 days (Harvest) 7 days (Grazing)	Apply when infestation reaches an economically damaging level and repeat if necessary. Use the 130 mL/ha rate when larvae are less than 1 cm in length. Use the 200 mL/ha rate when larvae between 1 and 2 cm in length are present. Use the 330 mL/ha rate when larvae longer than 2 cm are present.
Sorghum	*Helicoverpa punctigera* *Helicoverpa armigera*	WA only	350, 400 or 450 mL/ha	7 days (Harvest) 7 days (Grazing)	Crop checking should commence on head emergence from the boot and continue at weekly intervals until maturity. **By Aircraft:** Apply in a minimum of 20L of water per hectare as a spray of 100 to 150 microns VMD. Do NOT use on tight headed sorghum varieties. Apply when 2 larvae per head are present and actively feeding. Use 350 mL/ha when larvae are less than 1 cm in length. Use 400 mL/ha rate when larvae between 1 and 2 cm in length are present. Use 450 mL/ha rate when larvae longer than 2 cm are present.
	Helicoverpa armigera	Qld, NSW only	450 mL/ha		Do NOT use on tight headed sorghum varieties. Apply when 2 larvae per head are present and actively feeding. Apply only to larvae less than 5 mm long.
	Sorghum midge *(Contarinia sorghicola)*		100, 200 or 300 mL/ha		Adult Sorghum midge live for about 1 day, thus infestations on following days are mainly due to a new emergence within the crop and/or wind blowing the pest from other host crops or weeds. The level of infestation can therefore change considerably from day to day. Daily checks should be made at the time of day when conditions most favour midge activity. Apply when there is an average of 1 or more adult midge per head or when numbers equal or exceed the treatment threshold established by local authorities. Repeat applications on this basis. The intervals between applications depend upon the rate previously applied, and the infestation pressure after application. Under constant infestation pressure, higher rates will result in a longer interval than lower rates. With a given dose, higher infestation pressure will result in a shorter interval than a lower infestation pressure. Use the 100 mL/ha rate when there is an average of up to 4 adult midge per head. Use the 200 mL/ha rate when there is an average of 4-8 adult midge per head. Use the 300 mL/ha rate when there is an average of more than 8 adult midge per head.

CROP	INSECT PESTS	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS
Soybeans	Native budworm *(Helicoverpa punctigera)*	Sthn NSW, Vic, Tas, SA, WA, only	130, 200 or 330 mL/ha	14 days (Harvest) 7 days (Grazing)	Apply when infestation reaches an economically damaging level and repeat if necessary. Use the 130 mL/ha rate when larvae are less than 1 cm in length. Use the 200 mL/ha rate when larvae between 1 and 2 cm in length are present. Use the 330 mL/ha rate when larvae longer than 2 cm are present.
		Qld, Nthn NSW only	400 or 500 mL/ha		Apply when there are 2 or more larvae per metre of row. Apply the 400 mL/ha rate when larvae are less than 2 cm long. Apply the 500 mL/ha rate when larvae are longer than 2 cm.
	Helicoverpa armigera		500 mL/ha		Apply when there are 2 or more larvae per metre of row. Apply only to larvae that are less than 5 mm long.
	Soybean looper *(Diachrysia orichalcea)*	Qld only	400 or 500 mL/ha		Apply at pod-filling stage if necessary. Apply 400 mL/ha rate when larvae are small and/or numbers are low. Apply 500 mL/ha rate when larvae are longer and/or numbers are high.
Sunflower	Native budworm *(Helicoverpa punctigera)*	Sthn NSW, Vic, Tas, SA, WA, only	130, 200 or 330 mL/ha	14 days (Harvest) 7 days (Grazing)	Apply when infestation reaches an economically damaging level and repeat if necessary. Use the 130 mL/ha rate when larvae are less than 1 cm in length. Use the 200 mL/ha rate when larvae between 1 and 2 cm in length are present. Use the 330 mL/ha rate when larvae longer than 2 cm are present.
		Qld, Nthn NSW only	400 or 500 mL/ha		Crop checking should be aimed to detect larvae as they emerge. Small larvae are easier to kill than large larvae. Apply when infestation reaches an economically damaging level and repeat if necessary. Use the higher rate when large larvae are present. Apply before the heads turn downwards. Ensure good coverage of sunflower heads.
	Helicoverpa armigera	Qld, NSW only	500 mL/ha		Apply only to larvae less than 5 mm long. Crop checking should be aimed to detect larvae as they emerge. Apply when infestation reaches an economically damaging level and repeat if necessary. Apply before the heads turn downwards. Ensure good coverage of sunflower heads.
Sweet corn	Native budworm *(Helicoverpa punctigera)*	Vic, Tas, SA, WA only	300 or 500 mL/ha	7 days (Harvest) 7 days (Grazing)	Apply at the first signs of egg laying or after tasselling and repeat at 2-7 day intervals or as indicated by pest activity. Use the higher rate when large larvae are present. **Application from air:** 20 L spray mixture per hectare. **Application by ground:** 500 L spray mixture per hectare.
	Corn earworm *(Helicoverpa armigera)*	Vic, SA, WA only			
		Qld, NSW, Tas only	500 mL/ha		Apply only to larvae less than 5 mm long. Apply at the first signs of egg laying or after tasselling and repeat at 2-7 day intervals or as indicated by pest activity. **Application from air:** 20 L spray mixture per hectare. **Application by ground:** 500 L spray mixture per hectare.
Tobacco	Budworm *(Helicoverpa punctigera)*			7 days (Harvest) 7 days (Grazing)	The use of a wetting agent is unnecessary. If a wetting agent is required for materials mixed with SUMI-ALPHA Flex Insecticide, the rate must not exceed 25 mL/100 L spray mixture. Dew covered crops can be sprayed. Crops may be sprinkler irrigated immediately after the spray has dried.
		Qld, NSW, Vic only	Established Infestations: 25 mL/100 L		**Established Infestations:** When larvae are less than 2 cm in length (equivalent to programme application rate).
			40 mL/100 L		When larvae between 2 and 3 cm in length are present.
			50 mL/100 L		When larvae longer than 3 cm in length are present.
	Tobacco looper *(Chrysodexis argentifera)*		25 mL/100 L		Controlled with budworm programme.
	Wingless grasshopper *(Phaulacridium vittatum)*	Vic only			

CROP	INSECT PESTS	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS
Tomatoes (bush and trellis)	Native budworm *Helicoverpa punctigera)* Cluster caterpillar *(Spodoptera litura)*	All States (not Tas)	**Established Infestations** **Low Volume:** 190, 300 or 400 mL/ha **High Volume:** 25, 40 or 55 mL/100 L	2 days (Harvest)	**Established Infestations:** Use 190 mL/ha or 25 mL/100 L when larvae are less than 1 cm long. Use 300 mL/ha or 40 mL/100 L when larvae between 1 and 2 cm long are present. Use 400 mL/ha or 55 mL/100 L when larvae longer than 2 cm are present. **Low Volume:** **By Ground Rig:** Apply 100 litres of spray mixture per hectare or more without producing run-off. Apply as a fine spray with hydraulic nozzles or fan-assisted rotary atomizers. If hydraulic nozzles are used, cone nozzles are preferred. **By Aircraft:** Apply in a minimum of 10 L of water per hectare as a spray of 100 to 150 microns VMD. **High Volume:** Apply as a medium to fine spray. Apply 250 L/ha of spray mixture up to flowering. Then increase the volume gradually, as the plants grow, up to 1000 L/ha at plant maturity.
	Tomato grub *(Helicoverpa armigera)*	Vic, Tas, SA, WA only			
		Qld, NSW only	**Low Volume:** 400 mL/ha **High Volume:** 55 mL/100 L		Apply only to larvae less than 5 mm long. Crop checking should be aimed to detect larvae as soon as they emerge. Apply from plant emergence/transplanting according to pest activity. Apply using the methods describe d for Native budworm above.
	Plague thrips *(Thrips imaginis)*	All States	**Low Volume:** 130 mL/ha **High Volume:** 12 mL/100 L		Apply from flowering as required. Apply using the methods described for Native budworm above.
Wheat, oats, barley	Anthelid caterpillar *(Anthela spp.)*	NSW, Vic, SA, WA only	150 mL/ha	7 days (Harvest) 7 days (Grazing)	Apply when larvae are less than 1 cm long.
			300 mL/ha		Apply when larvae are longer than 1 cm.
	Native budworm *(Helicoverpa punctigera)*	Sthn NSW, Vic, Tas, SA, WA only	130, 200 or 330 mL/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. Use the 130 mL/ha rate when larvae are less than 1 cm in length. Use the 200 mL/ha rate when larvae between 1 and 2 cm in length are present. Use the 330 mL/ha rate when larvae longer than 2 cm are present.
Winter cereals (wheat, barley, oats, triticale)	Webworm *(Hednota spp.)*	Vic, Tas, SA, WA only	70 mL/ha	7 days (Harvest) 7 days (Grazing)	Apply pre-sowing or post-sowing. If applying post-sowing, apply at first signs of economic damage. Most damage occurs within 3 weeks after emergence. During this period the crop should be frequently inspected. **By Aircraft:** Apply in a minimum of 10 L of water per hectare as a spray of 100 to 150 microns VMD. **By Ground Rig:** Apply in 20 to 200L water per hectare.
	Aphids (*Rhopalosiphum* spp.) (Barley Yellow Dwarf virus vectors)	NSW, ACT, Vic, Tas, SA, WA only	100-300 mL/ha		To control aphi ds, sprays should be applied 3 and 7 weeks post emergent to reduce aphid colonisation and the spread of Barley Yellow Dwarf Virus. This program will also reduce the effect of aphid feeding damage. Use the higher rate in high pest pressure situations.

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

WITHHOLDING PERIODS

Celery:
DO NOT HARVEST FOR 1 DAY AFTER APPLICATION

Broccoli, Brussel Sprouts, Cabbages, Cauliflowers, Chou Moellier, Fodder Rape, Kale, Kohlrabi, Tomatoes:
DO NOT HARVEST FOR 2 DAYS AFTER APPLICATION.

Green Beans:
DO NOT HARVEST FOR 3 DAYS AFTER APPLICATION.

Barley, Cotton, Maize, Oats, Sorghum, Sweetcorn, Tobacco, Triticale, Wheat:
DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.

Broad Beans, Canola, Chickpeas, Field Peas, Garden Peas, Lentils, Linseed, Lupins, Mung Beans, Navy Beans, Pigeon Peas, Safflower, Soybeans, Sunflower:
DO NOT HARVEST FOR 14 DAYS AFTER APPLICATION.

Chou Moellier, Fodder Rape:
DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 2 DAYS AFTER APPLICATION.

Barley, Broad Beans, Canola, Chickpeas, Field Peas, Garden Peas, Green Beans, Lentils, Linseed, Lucerne, Lupins, Maize, Mung Beans, Navy Beans, Oats, Pasture, Pigeons Peas, Safflower, Sorghum, Soybeans, Sunflower, Triticale, Wheat:
DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 7 DAYS AFTER APPLICATION.