

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

# SAMURAI®

SYSTEMIC INSECTICIDE

ACTIVE CONSTITUENT: 500 g/kg CLOTHIANIDIN

GROUP **4A** INSECTICIDE

**For the control of mealybug, woolly aphid and codling moth in apples and pears;  
green peach aphid and oriental fruit moth in peaches and nectarines; mealybug in grapes;  
Queensland and Mediterranean Fruit Fly in table grapes, persimmon, pome fruit and stone fruit;  
gall wasp, leaf miner, fullers rose weevil and California red scale in citrus**

## DIRECTIONS FOR USE

### RESTRAINTS

- DO NOT** apply by aircraft.
- DO NOT** apply more than 3 foliar sprays per season.
- DO NOT** apply more than 1 foliar spray per season if water volumes are greater than 2000 L/ha.
- DO NOT** apply more than one soil application per grape block per season.
- DO NOT** apply soil and foliar applications on the same grape block in the same season.
- DO NOT** apply if heavy rains or storms are forecast within 3 days.
- DO NOT** irrigate to the point of run-off for at least 3 days after application.
- DO NOT** allow first-flush irrigation tailwater or storm run-off from treated soil to enter natural waterways.

### SPRAY DRIFT RESTRAINTS

- DO NOT** apply when wind speed is less than 3 or more than 20 kilometres per hour, as measured at the application site.
- DO NOT** apply during surface temperature inversion conditions at the application site.
- DO NOT** direct the spray above trees or vines during airblast applications. **TURN OFF** outward pointing nozzles at row ends and outer rows during airblast applications.

Users of this product **MUST** make an accurate written record of the details of each spray application within 24 hours following application, and must **KEEP** this record for at least 2 years. The spray application details that must be recorded are: **1** date with start and finish times of application **2** location address and paddock(s) sprayed **3** full name of this product **4** amount of product used per hectare and number of hectares applied to **5** crop or situation and weed or pest **6** wind speed and direction during application **7** air temperature and relative humidity during application **8** nozzle brand, type, spray angle, nozzle capacity and spray system pressure measured during application **9** name and address of person applying this product. (Additional record details may be required by the state or territory where this product is used.)

### MANDATORY NO-SPRAY ZONES

- DO NOT** apply if there are aquatic and wetland areas including aquacultural ponds, surface streams and rivers within 250 metres (orchards) or 40 metres (vineyards) downwind from the application area.
- DO NOT** apply if there are sensitive crops, gardens, landscaping vegetation, protected native vegetation or protected animal habitat within 10 metres (orchards only) downwind from the application area.

CROP	PEST	RATE	CRITICAL COMMENTS
Apples	Woolly apple aphid	<b>Dilute foliar spray</b> 40 g/ 100 L	These sprays may be timed to coincide with the spray timing required for codling moth control. Ensure thorough coverage.  Woolly apple aphid should be sprayed at the first signs of infestation but after petal fall. Some woolly apple aphid may survive the first spray in sheltered spots such as cracks in the bark. From here they will multiply again. If this occurs a second spray may be required two or more weeks later. SAMURAI should be applied as part of a season long program with other chemical group sprays to provide control.

CROP	PEST	RATE	CRITICAL COMMENTS
Apples	Woolly apple aphid	<b>Dilute foliar spray</b> 40 g/ 100 L	The addition of MAXX Organosilicone Surfactant at 50 mL/100 L water may improve efficacy. Refer to <b>Restraints</b> and the Application/Wetting Agent section. Concentrate spraying is not recommended because thorough coverage is essential for good control of these insects.
		<b>For application through micro-irrigation on higher density orchards (1000 to 3000 trees/ha)</b> 2 – 4 kg/ha	Apply between green tip and pink bud stage. The higher rate will give longer control. Determine the area in hectares of orchard to be treated. Multiply this by the kg of SAMURAI selected and add this amount of SAMURAI to the chemigation tank for injection into the irrigation system. eg. 5 ha orchard block x 3 kg/ha = 15 kg to be added to injecting tank. Run the irrigation system for approximately 30 minutes and ensure the water has reached all parts of the block and wet the soil. Apply the required amount of SAMURAI through the irrigation system. Continue to run the irrigation system to ensure thorough wetting of the soil profile down to at least 10 cm depth. For mini-sprinklers with high application rates this may take 1 – 2 hours. For dripper systems this may take 4 – 8 hours. The soil in the irrigation zone should be free of weeds and heavy debris. Control may be achieved in the season of application. It is however recommended that trees with infestations in autumn are marked so that they can be treated at green tip the following season.
		<b>For application to individual trees by soil drench on low density orchards (666 to 1000 trees/ha)</b> 2.5 – 5 g per tree applied in 1 L of water to the soil around the base of the tree. (applying 2.5 -5 g/ tree at a density of 800 trees/ha will be equivalent to 2– 4kg per ha of orchard)	Apply between green tip and pink bud stage. The higher rate should be used on heavier infestations in bigger trees and will give longer control. Control may be achieved in the season of application. It is however recommended that trees with infestations in autumn are marked so that they can be treated at green tip the following season. The speed of control from this application depends on how fast the product enters the root zone and is taken up by the tree actively growing. The diluted product needs to be applied to give thorough coverage around the trunk to a distance of 15 cm from the trunk. Ensure that mixture penetrates the soil around the trunk base and does not run off. If in doubt about penetration, irrigation or rain is required after application to take the chemical into the root zone. Remove trash and weeds from application zone before application.
Apples and Pears	Longtailed mealybug Tuber mealybug	<b>Dilute foliar spray</b> 40 g/ 100 L	The first spray should be as soon as crawlers are seen but after petal fall. Ensure thorough coverage. Two sprays 14 days apart will give significant knockdown of these pests on foliage and tree limbs, however some mealybug may survive in sheltered spots and multiply again from these. They then migrate to the calyx of the fruit where they are very difficult to control, so these sprays should be applied as part of a season long program with other chemical group sprays to keep them under control. The addition of MAXX Organosilicone Surfactant at 50 mL/100 L water may improve efficacy. Refer to <b>Restraints</b> and the Application/Wetting Agent section. Concentrate spraying is not recommended because thorough coverage is essential for good control of these insects.

CROP	PEST	RATE	CRITICAL COMMENTS
Apples and Pears	Codling moth	<p><b>Dilute foliar spray</b> 40 g/ 100 L</p> <p><b>Concentrate spraying</b> Refer to the Mixing/ Application section.</p>	<p>Apply once pest monitoring indicates that a generation egg hatch is taking place. Ensure thorough coverage.</p> <p>Apply two consecutive sprays 14 days apart to maintain control of a generation. It is recommended this be part of a season long control program. Further sprays for this generation, or the next should be from a different chemical group.</p> <p>The addition of MAXX Organosilicone Surfactant at 50 mL/100 L water may improve efficacy. Refer to <b>Restraints</b> and the Application/Wetting Agent section.</p>
Citrus	Gall wasp Leaf miner Fullers rose weevil California red scale	<p><b>For application through micro – irrigation.</b></p> <p>6 - 8 g per tree</p> <p>Use the higher rate for larger older trees (3.5m or more tall), in high pest pressure situations or where application has been delayed. The lower rate may be used for smaller trees, higher density plantings with small trees and under lower pest pressure.</p>	<p>Apply two weeks after flowering (petal drop) has finished. For most navel orange varieties, this is in late October or November.</p> <p>Where extended or multiple flowerings occur and where the previous seasons crop is still on the tree after flowering, SAMURAI should only be applied after the previous crop has been picked and there is a minimum of 20 weeks until the next harvest.</p> <p>The soil must be reasonably dry to start with.</p> <p>Run the irrigation for about 30 minutes and ensure water has reached all parts of the block and wet the soil. Determine the number of trees in the block to be treated. Multiply this by the rate per tree and add this amount to the chemigation tank for injection into the irrigation system. Ensure the volume of water in the tank is sufficient to reach and wet all parts of the block.</p> <p>Apply the required amount of SAMURAI through the irrigation system. Continue to run the irrigation system for about 5 hours to ensure thorough wetting of the soil profile to at least 15cm depth. The soil in the irrigation zone should be free of weeds and heavy mulch. Some leaves and trash is acceptable provided sufficient water is applied to wash the SAMURAI down into the root zone. The speed of control achieved depends on how fast the product enters the root zone and is taken up by the tree actively growing. Quick uptake is particularly important for scale control as this becomes more difficult once they are on the fruit.</p> <p>Best results are achieved where drippers or micro-sprinklers apply water to a limited area under the tree drip line. Do not apply through larger sprinklers that wet beyond the drip line of the tree into the inter row. In these situations, a better result will be achieved by spraying a band of SAMURAI about 1m wide down either side of the tree trunk line under the drip line and then irrigating this in to the soil as described above, so the soil profile is wet to at least 15cm depth. To get the correct SAMURAI rate per hectare multiply the number of trees per hectare by the rate of 6 or 8g to be used per tree. Do not leave soil applied SAMURAI exposed to sunlight on the surface. Irrigate to incorporate within 24 hours.</p> <p>Because of the nature of these pests and the variability of soil application and uptake, complete control is difficult to achieve. Treatment with SAMURAI should be in conjunction with other chemical or biological control measures. This is particularly the case with California red scale where additional control measures may be required about 4 months after treatment with SAMURAI.</p>

CROP	PEST	RATE	CRITICAL COMMENTS
Pome fruit, Persimmon Stone Fruit Table Grapes	Queensland Fruit Fly, Mediterranean Fruit Fly	40 g/100L + MAXX Organosilicone surfactant at 50 mL/100L	Apply three consecutive foliar sprays 7 days apart when monitoring indicates fruit fly activity. For the effective management of fruit fly this product is required to be used as part of a broader program involving other products approved for the control of fruit fly in conjunction with appropriate pest monitoring and orchard hygiene. Efficacy of such programs may be dependent upon the level of pest pressure during the season. Orchard floors with flowering weeds must be mown just prior to application. Beekeepers that are known to have hives in, or nearby the area to be sprayed should be notified no less than 48 hours prior to the time of planned application so that bees can be removed or otherwise protected prior to spraying.
Peaches and Nectarines	Oriental fruit moth	<b>Dilute foliar spray</b> 40 g/ 100 L <b>Concentrate spraying</b> Refer to the Mixing/ Application section.	Apply once pest monitoring indicates that a generation egg hatch is taking place. Apply two consecutive sprays 14 days apart to a generation. Further sprays for this generation, or the next should be from a different chemical group. SAMURAI should be used as part of a season long control program. The addition of MAXX Organosilicone Surfactant at 50 mL/100 L water may improve efficacy. Refer to the Application/Wetting Agent section.
	Green peach aphid	<b>Dilute foliar spray</b> 10 g/ 100 L <b>Concentrate spraying</b> Refer to the Mixing/ Application section.	Apply once monitoring indicates that chemical control is necessary. Ensure that a reasonable amount of leaf is present at spraying to enhance uptake.
Table and wine grapes	Long tailed mealybug	<b>Soil application</b> 800 g per hectare of vineyard. This is equivalent to applying 26 g of SAMURAI per 100m of vine row at an average row spacing of 3.3m. This is the rate that should be applied when calibrating for band spraying.	<b>DO NOT apply to wine grapes after the beginning of flowering (E-L 19).</b> <b>1. For application through a micro-irrigation system.</b> Determine the area in hectares of vineyard to be treated. Multiply this by 800g and add this amount of SAMURAI to the chemigation tank for injection into the irrigation system. eg. 5 ha vineyard block x 800 g/ha = 4000g (4kg) to be added to the chemigation injecting tank. Run the irrigation system for approximately 30 minutes and ensure the water has reached all parts of the block and wet the soil. Apply the required amount of SAMURAI through the irrigation system. Continue to run the irrigation system to ensure thorough wetting of the soil profile down to at least 10 cm depth. For mini-sprinklers with high application rates this may take 1 – 2 hours. For dripper systems this may take 4 – 8 hours. The soil in the irrigation zone should be free of weeds and heavy debris.

CROP	PEST	RATE	CRITICAL COMMENTS
Table and wine grapes	Long tailed mealybug	<p><b>Soil application</b> 800 g per hectare of vineyard.</p> <p>This is equivalent to applying 26 g of SAMURAI per 100m of vine row at an average row spacing of 3.3m.</p> <p>This is the rate that should be applied when calibrating for band spraying.</p>	<p><b>2. For application by band spraying.</b></p> <p>Do not apply by band spraying unless under vine sprinklers are present that can ensure thorough wetting after application.</p> <p>Apply by spraying the chemical at the standard herbicide rate of 400L water per sprayed hectare on to the soil in a band 0.7m wide centred on the row. Add SAMURAI to the spray tank at the correct rate so that 26g of product is applied per 100m of vine row.</p> <p>The soil in this zone must be free of weeds and heavy debris. The chemical must then be incorporated within 24 hours with 10 - 25 mm of irrigation. This should wet the whole band sprayed area.</p> <p><b>Note</b></p> <p>Good uptake depends on getting the chemical in to the root zone and the plants actively growing. <b>Application should therefore be between budburst and beginning of flowering.</b></p> <p>Follow up irrigation is important to assist with root uptake. The soil should always be moist at rooting depth. Some mealybug may reach the bunches and these may need to be controlled with a foliar spray from a different chemical group.</p>
Table grapes only		<p><b>Dilute foliar spray</b> 40 g/ 100 L</p>	<p>SAMURAI should be used as part of a season long foliar control program. Application should take place as soon as crawlers are seen. A maximum of two applications at least 21 days apart can be used up to bunch closure.</p> <p>Dilute spray in a minimum of 1000 L/ha to run-off because thorough coverage is essential for good control of these pests. This volume should be increased as vine foliage becomes bigger. Later sprays where mealybug may have entered the bunches, need thorough wetting for good penetration.</p> <p>The addition of MAXX Organosilicone Surfactant at 50 mL/100 L water may improve efficacy. Refer to the Application/Wetting Agent section.</p>

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

## **WITHHOLDING PERIODS:**

**POME FRUIT, STONE FRUIT (including CHERRIES), PERSIMMON: DO NOT HARVEST FOR 7 DAYS AFTER THE LAST APPLICATION.**

**CITRUS FRUIT: DO NOT HARVEST FOR 20 WEEKS AFTER THE LAST APPLICATION.**

**GRAPES (FOLIAR APPLICATION): DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.**

**GRAPES (SOIL APPLICATION): NOT REQUIRED WHEN USED AS DIRECTED.**

**DO NOT GRAZE TREATED AREA OR CUT TREATED AREA FOR STOCK FEED.**

**Treated fruit for export to particular destinations outside Australia may require a longer interval before harvest to comply with residues standards of importing countries. Please contact your industry body, exporter or Sumitomo Chemical Australia before using Sumitomo SAMURAI Systemic Insecticide.**

## GENERAL INSTRUCTIONS

### INSECTICIDE RESISTANCE GROUP 4A INSECTICIDE WARNING

For insecticide resistance management Sumitomo SAMURAI Systemic Insecticide is a Group 4A insecticide. Some naturally occurring insect biotypes resistant to SAMURAI and other Group 4A insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if SAMURAI or other Group 4A insecticides are used repeatedly. The effectiveness of SAMURAI 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 this product to control resistant insects. SAMURAI may be subject to specific resistance management strategies. For further information contact your local supplier, Sumitomo Chemical Australia Pty Ltd representative or local agricultural department agronomist.

### CROP MONITORING

Effective pest control depends upon regular monitoring of crops during the season at 3-5 day intervals.

### MIXING

Measure the required amount of product to a partially filled spray tank and then add the remainder of the water. Ensure agitation is maintained during tank filling and whilst spraying. Do not let prepared spray solution sit in spray tank overnight.

### COMPATIBILITY

It is advised to test water quality which may vary considerably with location, as well as all mixtures prior to mixing commercial quantities.

### APPLICATION

This product may be applied by ground equipment only. Ensure equipment is calibrated to give good coverage at correct volume.

#### 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 100 L of water. Spray to the point of run-off.
- The required dilute spray volume will change and the sprayer set up and operation may also need to be changed, as the crop grows.

#### Concentrate Spraying:

- Do not use less than 1000 L per hectare of water once trees reach medium size (2.5 m high).
- 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** 2000 L/ha
  2. Your chosen concentrate spray volume:  
**for example** 1000 L/ha
  3. The concentration factor in this example is:  
2X (that is,  $2000\text{ L} \div 1000\text{ L} = 2$ )
  4. If the dilute label rate is 40 g/100 L, then the concentrate rate becomes 2 X 40, that is, 80 g/100 L of concentrate spray.
- The chosen spray volume, amount of product per 100 L of water, and the sprayer set up and operation may need to be changed as the crop grows.
  - For further information on concentrate spraying, users are advised to consult relevant industry guidelines, undertake appropriate competency training and follow industry Best Practices.

#### Wetting Agent

Add MAXX Organosilicone Surfactant at the rate of 50 mL/100 L (0.05%) of spray. Do not exceed this rate (see Restraints). Other surfactants may be acceptable but their effectiveness, safety to trees and fruit, or compatibility with SAMURAI cannot be guaranteed.

MAXX surfactant may cause russetting on pears and apples. **DO NOT** use MAXX surfactant on pears and apples in conditions such as high humidity where russetting may be caused. **DO NOT** use MAXX surfactant at more than 50 mL/100 L water. **DO NOT** use MAXX surfactant within 7 days of applying copper based or nutritional products to fruit.

## PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

**DO NOT** apply when there are relevant non-target terrestrial plants downwind from the application area within the mandatory no-spray zone.

## INTEGRATED PEST MANAGEMENT

Toxic to non-target beneficial arthropods. Not compatible with integrated pest management (IPM) programs utilising beneficial arthropods.

## PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Very toxic to aquatic life.

**DO NOT** apply under weather condition, or from spraying equipment, that may cause spray drift onto nearby or adjacent areas, particularly wetlands, waterbodies or watercourses. This product is highly toxic to aquatic invertebrates.

**DO NOT** contaminate wetlands or watercourses with this product or used containers.

**DO NOT** apply when there are aquatic and wetland areas including aquacultural ponds or surface streams and rivers downwind from the application area and within the mandatory no-spray zone.

**DO NOT** apply if heavy rains are expected within 48 hours.

## PROTECTION OF HONEY BEES AND OTHER INSECT POLLINATORS

Highly toxic to bees. **DO NOT** apply if bees are foraging in the orchard or vineyard. Will kill bees foraging in the crop to be treated or in hives by exposure to residues transported by foraging bees, overspray or spray drift and residues may remain toxic to bees for several days after application. Bee brood development will also be harmed by exposure to residues. Mortality is most likely if bees drink from irrigation water or dew on the ground after irrigation. Application should not be before two weeks after flowering has finished to ensure all bees have stopped foraging in the crop and to give bee keepers time to move their hives away from blocks to be treated. Beekeepers that are known to have hives within 2 km of the orchard should be notified at least 48 hours prior to application.

## STORAGE AND DISPOSAL

Store in the closed, original container in a dry, cool, well-ventilated area, away from direct sunlight. 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.

## SAFETY DIRECTIONS

Poisonous if swallowed. Wash hands after use.

## FIRST AID

If poisoning occurs contact a doctor or Poisons Information Centre. Phone Australia Tel. 131 126; New Zealand 0800 764 766

## GHS WARNINGS

May cause cancer.

Causes damage to organs through prolonged or repeated exposure.

Do not breathe dust.

## SDS

Additional information is listed in the Safety Data Sheet (SDS) available from Sumitomo Chemical Pty Ltd.

**THIS PRODUCT IS NOT CONSIDERED TO BE A DANGEROUS GOOD UNDER THE AUSTRALIAN CODE FOR THE TRANSPORT OF DANGEROUS GOODS BY ROAD AND RAIL**

**IN A TRANSPORT EMERGENCY DIAL 000 POLICE OR FIRE BRIGADE**

**FOR SPECIALIST ADVICE IN EMERGENCY ONLY PHONE 1800 024 973 TOLL FREE - ALL HOURS - AUSTRALIA WIDE**

## IMPORTANT NOTICE

These goods are to be used only for the purpose and as specified on the label, and are not suitable for any other purpose. To the fullest extent permitted by law, we do not accept or bear any liability on any basis for any loss, damage, cost or expense, arising in any way, directly or indirectly, in connection with the goods.

APVMA Approval No.: 60687/111062

Batch No:

Date of Manufacture:

MAXX Organosilicone Surfactant™ is a tradename of Sumitomo Chemical Australia Pty Ltd