

Trade Advice Note

on

Clothianidin

in the product

**Sumitomo Samurai Systemic Insecticide
(APVMA Product Number 60687)**

Australian Pesticides and Veterinary Medicines Authority

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Trade Advice Note on the Product

Sumitomo Samurai Selective Insecticide

The Australian Pesticides and Veterinary Medicines Authority (APVMA) has before it an application from Sumitomo Chemical Australia Pty Limited to extend the label of the registered product Sumitomo Samurai Systemic Insecticide to include control of Long tailed mealybug in table and wine grapes. The product contains 500g/kg clothianidin and is registered for use on apples, pears, peaches and nectarines.

1. Commodities exported

Grapes are considered to be a major trade commodity.¹ Dried vine fruit and wine may also be exported. Animal commodities derived from livestock fed on treated grape pomace are also exported.

2. Destination and Value of Exports

From January to December 2006, ~48.1 kt of fresh grapes were exported (~\$Aus 116.3 million). The main export markets for Australian grapes during this period were Hong Kong (~17.0 kt), Indonesia (~6.4 kt), Malaysia (~5.0 kt), Singapore (~4.6 kt), Thailand (~3.9 kt), Vietnam (~2.1 kt), Middle East-15 (~1.9 kt), New Zealand (~1.8 kt), Taiwan (1.3 kt) and Bangladesh (1.0 kt).²

In 2007/2008, Australia exported 702.10 ML of wine (value \$Aus 2656.8m) and 4.9kt of dried vine fruit (value \$Aus 13m). The major destination of the wine exports were United Kingdom (\$Aus 876.5m), United States (\$Aus 741.0m), Canada (\$Aus 258.9m), New Zealand (\$Aus 83.9m), Netherlands (\$Aus 70.6m), Ireland (\$Aus 69.2m) and China (\$Aus 60.5m).³

3. Proposed Australian use-pattern

Restraints

DO NOT use MAXX surfactant at more than 50 mL/100L water.

DO NOT use MAXX surfactant within 7 days of applying copper based or nutritional products to fruit.

DO NOT apply more than two foliar sprays per season.

DO NOT apply more than one foliar spray per season if water volumes are greater than 2000L/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.

Samurai Systemic Insecticide (active constituent 500g/kg clothianidin)

CROP	PEST	RATE	CRITICAL COMMENTS
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¹ Part 5B of the Vet Requirements Series and Ag Requirements Series, Overseas Trade Aspects of Residues in Food Commodities, October 2005.

² <http://www.horticulture.com.au/librarymanager/libs/104/TG.pdf>

³ Australian Commodity Statistics 2008, www.abare.gov.au

Table and wine grapes	Long tailed mealybug <i>Pseudococcus longispinus</i>	Soil application 600g per planted hectare (≡ 300g a.i. per planted hectare)	Apply by spraying the chemical in at least 1000L water per planted hectare on to the soil in a band 0.7m wide centered on the row. The soil in this zone must be free of weeds and debris. The chemical must then be incorporated within 24 hours with at least 10mm of irrigation. This should wet the whole band sprayed area. Good uptake depends on getting the chemical in to the root zone and the plants actively growing. Application should therefore be between budburst and the end of flowering. Follow up irrigation is important to assist with root uptake. The soil should always be moist at rooting depth. Some mealy bug may reach the bunches and these may need to be controlled with a foliar spray from a different chemical group.
Table grapes only		Dilute foliar spray 40g/100L (≡ 20g a.i./100L) + Maxx organosilicone surfactant at 50 mL/100L	Samurai should be used as part of a season long foliar control program. Application should take place as soon as crawlers are seen. DO NOT apply last application later than crop growth stage E-L 32 (beginning of bunch closure). A maximum of two applications at least 21 days apart can be used up to bunch closure. 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 later as the vine foliage becomes bigger. Later sprays where mealybug may have entered the bunches need thorough wetting for good penetration. The addition of MAXX Organosilicone Surfactant at 50mL/100L water may improve efficacy. Refer to the Application/Wetting Agent section.

WITHHOLDING PERIODS:

Grapes: DO NOT harvest for 6 weeks after last application.

Trade advice information:

Treated fruit (including fruit used to produce dried 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.

4. Overseas registration and approved label instructions

Clothianidin products are registered for use in the European Union (E.U.), U.S.A. and Japan for various crops including grapes.

5. Codex Alimentarius Commission and overseas MRLs

Codex MRLs have not been established for clothianidin. However it is currently scheduled for consideration by JMPR in 2010.

The following relevant overseas residue MRLs/ tolerances for clothianidin have been established:

Country	Commodity	Tolerance, mg/kg
U.S.A.	Grape	0.6
E.U.	Table Grapes	0.6
	Wine Grapes	0.05
Japan	Grape	5

6. Proposed Australian MRLs for clothianidin

Grapes

Australian residue data for table grapes were provided with the application.

The proposed application rate for foliar application (to table grapes only) is a maximum of two applications at 40g/100L (\equiv 20g a.i./100L) at least 21 days apart up to bunch closure (crop growth stage E-L 32 or BBCH-77), which is nominally 42 days before harvest. The addition of Maxx organosilicone surfactant at 50 mL/100L may improve efficacy. Data obtained from six relevant Australian trials showed that after two foliar applications at 20 - 25g a.i./100L, made 14 days apart (*i.e.* 1 – 1.25x the proposed application rate for foliar application), residues of clothianidin in table grapes at 41 – 57 days after the last application ranged from 0.03 - 1.9 mg/kg. Only some of the trials included surfactant. A trial at Yarra Valley, Victoria in which two applications of clothianidin were made at 25g a.i./100L to wine grapes, gave residues of 0.14 mg/kg at 44 days.

Residues of clothianidin in grapes in rank order (*= wetter not used) were 0.03, 0.06, 0.12, 0.14*, 0.17, 0.82*, 1.61* and 1.9 mg/kg. An MRL of 3 mg/kg is recommended for grapes (except wine grapes) in conjunction with a harvest WHP of 6 weeks.

The proposed rate for soil application to both wine and table grapes is a maximum of one application at 600g / planted hectare (\equiv 300g a.i./ planted hectare) between budburst and the end of flowering. The applicant states that soil application is made early in the grape vine growth stage (typically before the pre-flowering stage). Trial data from four Australian trials shows that after one soil application at 300g a.i./ sprayed hectare (*i.e.* 1x the proposed application rate for soil application) to either wine or table grapes and a PHI of 96 - 132 days, no detectable residues were found. In addition in the trial in which a 96 day PHI was observed, no residues were observed after a single application at a rate of 600g a.i./ha.

It is considered that the residue trials adequately address the proposed GAP. It is appropriate that an MRL be established for wine grapes of *0.02 mg/kg.

In a processing study, clothianidin residues were shown to concentrate by the following factors in different commodities: dried fruit (x3.6), wet pomace (x1.9) and juice (x1.8).

Dried fruit

Applying the processing factor of 3.6 to the maximum residue in grapes of 1.9 mg/kg gives a maximum residue of 6.84 mg/kg in dried fruit. As this is above the proposed grape MRL (3 mg/kg), it is appropriate to recommend an MRL of 10 mg/kg for dried fruit.

Pomace and Juice

Although table grapes can be dried to form dried grapes, they are not typically processed into grape pomace and juice. Wine grapes which are processed into grape pomace and juice are only subject to soil application of clothianidin, which does not leave detectable residues. It is therefore considered unnecessary to set separate MRLs for the processed grape pomace and juice. No data was provided for the processing of grapes to wine however as wine is produced from wine grapes which do not give detectable residues after application of clothianidin *via* soil application, residues in wine are accommodated by the wine-grape MRL.

Animal Commodities

Grapes are not considered a major animal feed commodity, although they may be fed at up to 20% of the diet of grazing livestock as grape pomace. Grape pomace from the processing of table grapes is not considered to result in significant exposure in livestock, as table grapes are usually not processed into wine and pomace. In the case of processing of wine grapes, residues are unlikely to be significant in grape pomace as residues in wine grapes (after soil application of clothianidin) are below the level of detection (0.01 mg/kg). Either apple or grape pomace would be fed to livestock at up to 20% of the diet and as the exposure through the consumption of grape pomace would be much lower than through the consumption of apple pomace, the MFL (maximum feed level) is therefore not increased by the introduction of grape pomace into the diet. Grape pomace is unlikely to be fed to poultry. No changes are required to the current animal commodity MRLs which are edible offal (mammalian) - *0.02mg/kg; eggs - *0.02mg/kg; meat (mammalian) - *0.02mg/kg; milks - *0.01 mg/kg; poultry, edible offal of - *0.02mg/kg and poultry meat - *0.02mg/kg. The risk to trade in animal commodities is therefore considered to be negligible and will not be considered further.

The following new MRLs are recommended for clothianidin:

Table 1

Compound	Food	MRL (mg/kg)	
ADD:			
	FB 0269	Grapes (excluding wine grapes)	3
	FB 1236	Wine grapes	*0.02
	DF 0269	Dried grapes	10

Withholding Period

Based on the residue data provided, the following WHP is recommended:

Grapes (wine and table)

Harvest “DO NOT harvest for 6 weeks after last application”

Note: For full details of Australian clothianidin MRLs, please refer to the APVMA website <http://www.apvma.gov.au> and follow the Chemical Residues link.

7. Potential Risk to Trade

Export of treated produce containing finite (measurable) residues of clothianidin may pose a risk to Australian trade in situations where (i) no residue tolerance (import tolerance) is established in the importing country or (ii) where residues in Australian produce are likely to exceed a residue tolerance (import tolerance) established in the importing country.

The following relevant overseas residue MRLs/ tolerances for clothianidin have been established:

Country	Commodity	Tolerance, mg/kg
USA	Grape	0.6
EU	Table Grapes	0.6
	Wine Grapes	0.05
Japan	Grape	5

While several overseas countries have established clothianidin MRLs in grapes, some key Australian export markets for grapes, such as Hong Kong, Indonesia, Singapore, Malaysia, Thailand and Taiwan, do not. As detectable residues are expected to occur if the product is used as directed this creates a potential risk to trade. The following statement is proposed for the label of *Samurai Systemic Insecticide*:

“Treated fruit (including fruit used to produce dried 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.”

Residues are unlikely to be significant in wine as residues in wine grapes (after soil application of clothianidin) are below the level of detection (0.01 mg/kg). The potential risk to trade through the export of wine or any commodity from processed wine grapes is therefore considered to be low.

The overall risk to export trade in animal commodities is considered to be negligible as no changes are required to the current animal commodity MRLs for clothianidin, which are set at the LOQ (*0.02mg/kg or *0.01mg/kg) for each commodity.

8. Conclusions

Detectable residues of clothianidin are likely to occur on table grapes when Sumitomo Samurai Selective Insecticide is used as directed. The main Australian export markets for these commodities have not established relevant MRLs. The applicant is proposing to mitigate this risk to trade through the inclusion of a trade advice statement on the label. Users will be advised that fruit for export may require a longer interval before harvest and to seek further advice. There is a potential for prejudice to Australian trade if table grapes treated with *Sumitomo Samurai Systemic Insecticide* are processed into dried commodities for export to markets that do not have MRLs in place. None of the main export markets such as Hong Kong, Indonesia, Singapore, Malaysia, Thailand, Vietnam or Taiwan appear to have established appropriate tolerances.

Detectable residues of clothianidin are unlikely to occur on wine grapes when Sumitomo Samurai Selective Insecticide is used as directed.

The overall risk to export trade in animal commodities derived from livestock fed grape pomace from treated crops is considered to be negligible as detectable residues are not expected to occur.

Comments are sought on the potential for Sumitomo Samurai Selective Insecticide to unduly prejudice Australian export trade when it is used on wine and table grapes to control Long tailed mealybug.