Australian Government

Australian Pesticides and Veterinary Medicines Authority

Trade Advice Notice

on clothianidin in the product Sumitomo Shield Systemic Insecticide for use on mung beans

APVMA product number 60689

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This publication is available from the APVMA website

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Preface

The Australian Pesticides and Veterinary Medicines Authority (APVMA) is an independent statutory authority with responsibility for assessing and approving agricultural and veterinary chemical products prior to their sale and use in Australia.

The APVMA has a policy of encouraging openness and transparency in its activities and of seeking stakeholder involvement in decision making. Part of that process is the publication of Trade Advice Notices for all proposed extensions of use for existing products where there may be trade implications.

The information and technical data required by the APVMA to assess the safety of new chemical products and the methods of assessment must be undertaken according to accepted scientific principles. Details are outlined in regulatory guidance published on the APVMA website.

About this document

This Trade Advice Notice indicates that the APVMA is considering an application to vary the use of an existing registered agricultural or veterinary chemical.

It provides a summary of the APVMA's residue and trade assessment.

Comment is sought from industry groups and stakeholders on the information contained within this document.

Making a submission

The APVMA invites any person to submit a relevant written submission as to whether the application to vary the registration of Sumitomo Shield Systemic Insecticide should be granted. Submissions should relate only to matters that the APVMA is required by legislation to take into account in deciding whether to grant the application. These grounds relate to the trade implications of the extended use of the product. Submissions should state the grounds on which they are based. Comments received outside these grounds cannot be considered by the APVMA.

Submissions must be received by the APVMA by **close of business on 29 November 2025** and be directed to the contact listed below. All submissions to the APVMA will be acknowledged in writing via email or by post.

Relevant comments will be taken into account by the APVMA in deciding whether to grant the application and in determining appropriate conditions of registration and product labelling.

When making a submission please include:

- contact name
- company or organisation name (if relevant)
- email or postal address (if available)
- the date you made the submission.

Please note: submissions will be published on the APVMA's website, unless you have asked for the submission to remain confidential, or if the APVMA chooses at its discretion not to publish any submissions received (refer to the public consultation coversheet).

Please lodge your submission using the public consultation coversheet, which provides options for how your submission will be published.

Note that all APVMA documents are subject to the access provisions of the *Freedom of Information Act 1982* and may be required to be released under that Act should a request for access be made.

Unless you request for your submission to remain confidential, the APVMA may release your submission to the applicant for comment.

Written submissions should be addressed to:

Executive Director, Agricultural Chemical Branch
Australian Pesticides and Veterinary Medicines Authority
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Phone: +61 2 6770 2300
Email: enquiries@apvma.gov.au

Further information

Further information can be obtained via the contact details provided above.

Further information on Trade Advice Notices can be found on the APVMA website: apvma.gov.au.

Introduction

The APVMA has before it an application from Sumitomo Chemical Australia Pty. Limited to vary the registration of Sumitomo Shield Systemic Insecticide containing clothianidin to include use on mung beans.

Trade considerations

Commodities exported

Pulses (lupins, field peas, chickpeas, faba beans, navy beans, mung beans) are major export commodities[1], as are commodities of animal origin, such as meat, offal and dairy products, which may be derived from livestock fed feeds produced from treated mung bean. Residues in these commodities resulting from the use of clothianidin may have the potential to unduly prejudice trade.

The proposed use on mung beans is not expected to increase the livestock or poultry dietary burdens, therefore, no amendments are required to the current clothianidin mammalian or poultry animal commodity MRLs that are all established at the limit of quantification of *0.02 mg/kg. The risk to trade arising from animal commodities remains low and is unchanged to that previously considered thus trade aspects relating to animal commodities are not discussed further in this TAN.

Destination and value of exports

Australia's export value[2] of dried mung bean has increased by 115.52% over the past 5 years, rising from 26,430,873 USD in 2019 to 56,962,732 USD in 2023.

Currently, 90% of the Australian crop is exported to India, China and other parts of Asia[3].

[1] Australian Pesticides and Veterinary Medicines Authority, *APVMA Regulatory Guidelines – Data Guidelines: Agricultural data guidelines – Pesticides: Overseas trade (Part 5B)*, accessed 22 October 2025.

[2] Tridge, Global Food and Agriculture Trade Company, Mung bean export figures from Australia, Tridge website, accessed 22 October 2025

[3] Grainwise, Australian Agriculture Trade Company, Mung bean market trends, Grainwise website, accessed 22 October 2025

Proposed Australian use pattern

Table 1: Proposed use pattern

Crop	Pest	Rate	Critical comments
Mung beans	Redbanded shield bug *(Piezodorus oceanicus)* Green vegetable bug *(Nezara viridula)* Brown shield bug *(Dictyotus caenosus)*	250 - 375 mL/ha 50-75g ai/ha plus MAXX Organosilicone Surfactant at 100 to 200 mL/100 L of water.	**DO NOT** apply more than 2 sprays per season and these should be used in a program with other mode of action insecticides. Use the higher rate for Redbanded shield bug, when heavy infestation is expected, and/or longer control is required. Treated insects may still be on the crop 2 to 3 days after application; however, they will have ceased feeding. Apply using minimum spray volumes of 100 L/ha for ground application and 30 L/ha for aerial methods. **Mung beans** Monitor crops and commence applications once local thresholds are reached. Continue to monitor crops.

Withholding periods:

Mung Beans

Harvest: Do Not Harvest For 21 Days After Application.

Grazing: Do Not Graze Or Cut For Stockfeed For 21 Days After Application.

Trade advice: Treated crops 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 SHIELD Systemic Insecticide.

Results from residues trials presented to the APVMA

The proposed use involves up to 2 foliar applications of clothianidin on mung bean crops at application rates ranging from 50-75g ai/ha. Harvest and grazing WHPs of 21 days are proposed by the applicant.

Residues data and trade aspects relating to the use on mung bean are discussed below.

Grain

Mung bean

At PHIs of 18-21 days, residues of clothianidin in mung beans following 2 foliar applications with final application administered at growth stages ranging from BBCH75-89 in three trials at ~1× the maximum proposed rate (~75g ai/ha) were in rank order: 0.022, 0.038 and 0.094 mg/kg. At ~2×, the maximum proposed rate, residues were 0.045, 0.096 and 0.19 mg/kg.

Based on the available information, a conservative permanent MRL of 0.2 mg/kg replacing the current TMRL of 0.1 mg/kg for clothianidin for VD 0536 Mung bean (dry) is considered appropriate in conjunction with a harvest WHP of 21 days.

Re-treatment interval is not specified on the label, based on the available data it is recommended that a minimum re-treatment interval of 14 days should be included in the critical comments section of the label.

Animal Feeds

Mung bean forage and straw

Mung bean forage

At PHIs of 20-21 days, residues of clothianidin in mung bean forage following two foliar applications administered at growth stages ranging from BBCH51-79 at ~75g ai/ha i.e. 1× the maximum proposed rate are in rank order 0.05, 0.11 and 0.12 mg/kg on a dry weight basis. At ~2×, the maximum proposed rate, residues were 0.19, 0.23 and 0.27 mg/kg.

Mung bean straw

At PHIs of 18-21 days, residues of clothianidin in mung bean straw following two foliar applications administered at growth stages ranging from BBCH75-89 at ~75g ai/ha i.e. 1× the maximum proposed rate are in rank order <LOD (0.003 mg/kg), <LOQ (0.01 mg/kg) and 0.06 mg/kg. At ~2× the maximum proposed rate, residues were 0.046, 0.051 and 0.16 mg/kg.

Based on the available information, a conservative permanent MRL of 0.4 mg/kg for clothianidin for pulse forage and fodder is considered appropriate in conjunction with a grazing WHP of 21 days.

Codex Alimentarius Commission and overseas MRLs

The Codex Alimentarius Commission (Codex) is responsible for establishing Codex Maximum Residue Limits (CXLs) for pesticides and veterinary medicines. Codex CXLs are primarily intended to facilitate international trade and accommodate differences in Good Agricultural Practice (GAP) employed by various countries. Some countries may accept Codex CXLs when importing foods. Clothianidin has been considered by Codex.

Table 2: Relevant international MRLs for clothianidin on mung beans

Commodity	Tolerance for residues arising from the use of clothionidin (mg/kg)								
	Australia	EU[4]	Codex[5]	Japan[6]	Korea[7]	USA[8]	China[9]	Taiwan[10]	India[11]
Mung bean (dry)	0.2 (proposed) T0.1 (Current)	0.02 (Pulses)	0.02 (Group)	0.3 (Other legumes/pulses beans)	0.05	–	–	–	

[4] European Commission, *Pesticide residue(s) and maximum residues levels (mg/kg)*, European Commission website, accessed 22 October 2025.

[5] Food and Agriculture Organization of the United Nations, *Codex Alimentarius: 238 - Clothianidin*, FAO website, accessed 22 October 2025.

[6] Japanese Food Chemistry Research Promotion Foundation, *Table of MRLs for Agricultural Chemicals*, JFCRPF website, accessed 22 October 2025.

[7] Ministry of Food and Drug Safety Korea, *Pesticide MRLs for agricultural commodities*, FSK website, accessed 22 October 2025.

[8] Electronic Code of Federal Regulations, *Tolerances and Exemptions for Pesticide Chemical Residues in Food*, eCFR website, accessed 22 October 2025.

[9] United States Department of Agriculture Foreign Agricultural Service, *China: Maximum Residue Limits for Pesticides in Foods, Global Agricultural Information Network report* website, accessed 22 October 2025.

[10] Food and Drug Administration Taiwan, *Food and Drug Administration Taiwan, Standards for Pesticide Residue Limits in Foods* website, accessed 22 October 2025.

[11] Food Safety and Standards Authority of India, 2025. MRL Standard, fssai.gov.in website, accessed 22 October 2025.

Current and proposed Australian MRLs for clothianidin

Table 3: Current relevant MRLs for clothianidin in Table 1 of the MRL Standard

Compound		Food	MRL (mg/kg)
Clothianidin			
VD	0526	Common bean (dry) [navy bean (dry)]	T0.1
MO	0105	Edible offal (Mammalian)	*0.02
PE	0112	Eggs	*0.02
MM	0095	Meat (mammalian)	*0.02
ML	0106	Milks	*0.01
MM	0095	Meat (mammalian)	0.7
ML	0106	Milks	0.3
VD	0536	Mung bean (dry)	T0.1
PM	0110	Poultry meat	*0.02
PO	0111	Poultry, edible offal of	*0.02
		Pulses {except Common bean (dry) [navy bean (dry)]; Soya bean (dry); Mung bean (dry)}	*0.02
VD	0541	Soya bean (dry)	T0.02

Table 4: Current relevant MRLs for clothianidin in Table 4 of the MRL Standard

Compound	Food	MRL (mg/kg)
Clothianidin		
	Pasture	2
	Pulse fodder	0.2
	Pulse forage (green)	*0.05
	Rape seed [canola] forage	3

Table 5: Amendments to Table 1 of the MRL Standard for clothianidin

Compound		Food	MRL (mg/kg)
Clothianidin			
Delete:			
VD	0536	Mung bean (dry)	T0.1
VD	0541	Soya bean (dry)	T0.02
Add:			
VD	0536	Mung bean (dry)	0.2
VD	0541	Soya bean (dry)	*0.02

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.

For use on mung bean, a permanent MRL of 0.2 mg/kg is recommended in conjunction with a 21 days WHP. This MRL is higher than those established in international markets such as Europe, Codex and Korea or in markets where default MRL is 0.01 mg/kg in the absence of MRL in markets such as in major export market India.

Given either a lower or a lack of international clothianidin MRL coverage in most major markets for pulses, comment is sought on the potential risk to Australian trade.

To further mitigate risk the label contains the following statement:

The Applicant has proposed a Trade statement: Treated crops for export to 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 SHIELD Systemic Insecticide.

Use of clothianidin on mung beans is permitted since 2016 under various minor use permits including under the current permit PER86221 (Expiry 30/09/2026) with use patterns involving 2 foliar applications at the maximum rate of 75g ai/ha (1× the maximum proposed rate) with 21 days WHP.

The National Residue Survey[12] conducted by the Department of Agriculture, Fisheries and Forestry to demonstrate that no Clothianidin residues were detected of above 0.05 mg/kg (½ MRL of 0.1 mg/kg) in mung bean samples from 2018 to 2024 while acknowledging that the survey only reports residues above 0.05 mg/kg whilst several export markets may require residues below 0.01 mg/kg.

Spray Drift

In an animal feeding study conducted on lactating cow (as summarized in the Public Release Summary[13]) dosing with clothianidin at 2.8 ppm (>2× the estimated dietary burden) gave clothianidin residues of ≤0.02 mg/kg in tissues and milk.

The Regulatory Acceptable Limit (RAL) is estimated to be = (0.02 × 2.8) / 0.02 = 2.8 mg ai/kg as previously determined.

The following no spray buffer zones output are determined using SDRAT tool.

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

- spray droplets not smaller than a MEDIUM spray droplet size category
- for maximum release heights above the target canopy of 3m or 25% of wingspan or 25% of rotor diameter whichever is the greatest, minimum distances between the application site and downwind sensitive areas (see 'Mandatory downwind buffer zones' section of the following table titled 'Buffer zones for aircraft') are observed.

Buffer zones for aircraft

Type of aircraft	Mandatory downwind buffer zones (metres)				
	Bystander areas	Natural aquatic areas	Pollinator areas	Vegetation areas	Livestock areas
Fixed-wing	Not yet assessed	Not yet assessed	Not yet assessed	Not yet assessed	20
Helicopter	Not yet assessed	Not yet assessed	Not yet assessed	Not yet assessed	20

[12] Department of Agriculture, Fisheries and Forestry, Australia, *National Residue Survey results and publications*, DAFF website, accessed 22 October 2025.

[13] APVMA website, Public Release Summary, Clothianidin 2010, accessed 22 October 2025.

Conclusion

Sumitomo Chemical Australia Pty. Limited has applied to vary the registration of Sumitomo Shield Systemic Insecticide containing clothianidin to include use on mung beans.

Comment is sought on the potential for the proposed use and the proposed clothianidin mung bean MRL at 0.2 mg/kg, to cause undue risk to Australian trade of mung beans, given that most international markets have a lower MRL or have not established a clothianidin MRL for mung beans or pulses. Comment is also sought on the suitability of the proposed risk mitigation label statements and the ability of industry to manage any potential trade risk.