

**Trade Advice Notice**

on

Terbutylazine

in the product

*Terbyne 750 WG Herbicide*  
(product number 56973)

August 2009

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## 1. PREFACE

### 1.1 About this Document

This is a Trade Advice Notice.

It indicates that the Australian Pesticides and Veterinary Medicines Authority (APVMA) is considering an application for registration of an 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 notice.

The APVMA will only consider comment on submissions that relate to the **trade implications** of the extended use of the product. Comments received outside these grounds will not be considered by the APVMA. Comments made on appropriate grounds will be considered with details posted on the APVMA website noting what action has/will be taken in regard to concerns.

Any advice the APVMA receives through this consultation which it relies on to grant this application will be noted in a subsequent Advice Summary.

Advice Summaries can be found at:

[http://www.apvma.gov.au/registration/data\\_requirements\\_subpage.shtml](http://www.apvma.gov.au/registration/data_requirements_subpage.shtml)

### 1.2 Prior to Submission

Please note that subject to the *Freedom of Information Act 1982*, the *Privacy Act 1988* and the Agvet Codes all submissions received may be made publicly available. They may be listed or referred to in any papers or reports prepared on this subject matter.

The APVMA reserves the right to reveal the identity of a respondent (you) unless a request for anonymity accompanies your submission. If no request for anonymity is made, you will be taken to have consented to the disclosure of your identity for the purposes of Information Privacy Principle 11 of the *Privacy Act 1988*.

The contents of any submission will not be treated as confidential or confidential commercial information unless they are marked as such and you have provided justification such that the material is capable of being classified as confidential or confidential commercial information in accordance with the *Freedom of Information Act 1982* or the Agvet Codes as the case may be.

### 1.3 About this consultation

The APVMA invites comment on this Trade Advice Notice until the 16 October, 2009. Submissions should be addressed to:

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## 2. INTRODUCTION

The Australian Pesticides and Veterinary Medicines Authority (APVMA) has before it an application from Sipcam Pacific Australia Pty Ltd to register *TERBYNE 750 WG HERBICIDE*, containing the active ingredients terbuthylazine at 750 g/kg, for use in lupins, chickpeas, faba beans, field peas and triazine-tolerant canola for control of various weeds prior to crop emergence.

The potential for terbuthylazine residues in these commodities to unduly prejudice trade is discussed below.

## 3. TRADE CONSIDERATIONS

### 3.1 Commodities Exported

Chickpeas, lupins, faba beans, field peas and canola, together with meat and dairy products, are exported in varying quantities. New MRLs are proposed at the limit of quantitation (LOQ) for pulses, rapeseed (canola), mammalian and poultry meat and offal, milk and eggs.

### 3.2 Destination and Value of Exports

#### *Pulses*

Export volumes and values for various pulse crops are tabulated below.

#### **Australian pulse exports in 2007/08**

<b>Crop</b>	<b>Volume of exports (kilotonnes)</b>	<b>Value of exports (\$ million)</b>
Lupins	50.0	21.3
Field peas	142.2	61.1
Chickpeas	218.1	139.0
Total <sup>#</sup>	619.3	386.7

<sup>#</sup>Also includes faba beans, mung beans, navy beans, vetch, lentils, cow peas, pigeon peas and some other minor legumes.

#### *Canola*

Volumes and destinations of Australian exports of canola products during 2007/08 are tabulated below.

#### **Australian canola exports in 2007/08**

<b>Destination</b>	<b>Canola seed exports (kilotonnes)</b>	<b>Canola oil exports (kilotonnes)</b>
Bangladesh	3.55	-
China	0	4.21
Japan	121.54	2.01
Pakistan	166.78	-
New Zealand	-	13.12
Other	227.27	37.49
Total	519.14	56.82

Canola meal exports in 2007/08 were 2.04 kilotonnes, although information on the destinations of those exports are not available.

## Meat

### Australian beef and veal exports in 2007

Destination	Value (\$ million)	Volume (kilotonnes)
Japan	1844.0	377.9
USA	1136.3	296.1
Korea	725.6	148.9
Taiwan	117.4	29.1
Indonesia	83.3	26.8
EU	61.6	6.0
Canada	51.2	12.3
CIS	32.2	5.1
Singapore	29.7	5.5
Hong Kong	21.5	2.4
United Arab Emirates	20.4	1.8
Other	134.9	29.5
Total	4258.1	941.4

### Australian lamb exports in 2007

Destination	Value (\$ million)	Volume (kilotonnes)
USA	328.4	44.0
EU	82.2	14.2
United Arab Emirates	56.4	12.6
Japan	56.0	8.7
Papua New Guinea	23.8	11.6
South Africa	7.5	4.3
Other	268.0	70.6
TOTAL	822.3	166.0

### Australian mutton exports in 2007

Destination	Value (\$ million)	Volume (kilotonnes)
Saudi Arabia	58.9	23.2
USA	43.2	16.5
EU	40.3	8.1
Japan	29.9	6.9
CIS	23.5	8.1
Taiwan	23.2	7.9
Malaysia	21.8	6.4
South Africa	21.8	15.3
Singapore	19.3	5.9
Papua New Guinea	6.5	4.3
Canada	2.9	0.8
Korea	2.6	0.8
Other	135.2	50.7
TOTAL	429.5	155.0

In 2007/08, 30 kilotonnes of poultry meat were exported, with a value of \$32 million, 39 kilotonnes of pig meat were exported at a total of \$128 million.

## *Dairy products*

### **Australian cheese exports (2007/08)**

<b>Destination</b>	<b>Volume (kilotonnes)</b>	<b>Value (\$ million)</b>
Japan	96.8	426.7
Philippines	4.7	23.4
Saudi Arabia	16.3	89.7
UK	4.0	21.2
USA	8.7	37.2
Other	72.6	370.1
Total	203.1	968.3

### **Australian butter and butterfat exports (2007/08)**

<b>Destination</b>	<b>Volume (kilotonnes)</b>	<b>Value (\$ million)</b>
Egypt	1.6	5.0
Malaysia	4.9	17.4
Philippines	0.8	2.4
Singapore	7.1	26.2
Thailand	4.4	13.9
Other	38.6	129.6
Total	57.4	194.6

### **Australian skim milk powder exports (2007/08)**

<b>Destination</b>	<b>Volume (kilotonnes)</b>	<b>Value (\$ million)</b>
Japan	1.5	9.8
Malaysia	14.2	63.4
Philippines	13.3	64.1
Singapore	15.9	61.8
Thailand	11.6	48.6
Other	66.4	285.6
Total	123.0	533.2

### **Australian casein exports (2007/08)**

<b>Destination</b>	<b>Volume (kilotonnes)</b>	<b>Value (\$ million)</b>
Japan	2.5	38.4
USA	3.0	42.2
Other	3.5	44.2
Total	9.0	124.8

### **Australian wholemilk powder exports (2007/08)**

<b>Destination</b>	<b>Volume (kilotonnes)</b>	<b>Value (\$ million)</b>
Malaysia	5.7	27.3
Singapore	17.0	88.9
Taiwan	2.6	11.8
Thailand	3.4	14.7
Other	52.9	249.4
Total	81.6	392.2

Exports of fresh milk in 2007/08 were worth \$83.6 million, other fresh dairy products were worth \$12.0 million, condensed milk exports were worth \$152.4 million, and other powder exports were worth \$247.4 million.

### 3.3 Proposed Australian Use-Pattern

The proposed Australian use patterns for *TERBYNE 750 WG HERBICIDE*, are detailed in the ‘directions for use’ table below.

Crop	Situation	Pest	Rate	Critical Comments
Chick peas, faba beans, field peas, lupins	Incorporated by sowing (IBS)	Suppression of: wild radish, doublegee/spiny emex,	1.0-1.4 kg/ha	Terbyne can be used IBS or PSPE. Refer to the APPLICATION section of the label. Use the lower rate on light soils (sandy loams to loamy sands) and the higher rate on heavier soils (loams, silt plus clay 40–60%). The soil should be free of excessive clods, trash and deep furrows. Sufficient rainfall (20 to 30mm) to wet the soil through the weed root zone is necessary within 2 to 3 weeks of application. NOTE: some early crop phytotoxicity may be observed particularly on light soils. Heavy, intense rainfall following application may cause damage. At the higher rates, avoid overlapping sprays and spraying-out corners.
	Post sowing, pre-emergent (PSPE). Apply to the soil within 2 days after sowing.	Burr medic, black bindweed, corn gromwell (white iron weed, sheep weed), dead nettle, Indian hedge mustard, long haired poppy, mint weed, ox tongue, prickly lettuce, shepherd’s purse, sow thistle, toadrush, turnip weed, wild gooseberry, wild turnip, wireweed, hogweed. <b>Suppression of:</b> annual ryegrass, wild oats, wild radish, phalaris	0.7-1.0 kg/ha	
Canola (TT or triazine tolerant varieties only)	Incorporated by sowing (IBS)	<b>Suppression of:</b> wild radish, doublegee/spiny emex,	1.0-1.4 kg/ha	
	Post sowing, pre-emergent (PSPE). Apply to the soil within 2 days after sowing.	Burr medic, black bindweed, corn gromwell (white iron weed, sheep weed), dead nettle, Indian hedge mustard, long haired poppy, mint weed, ox tongue, prickly lettuce, shepherd’s purse, sow thistle, toadrush, turnip weed, wild gooseberry, wild turnip, wireweed, hogweed. <b>Suppression of:</b> annual ryegrass, wild oats, wild radish, phalaris	1.0-1.4 kg/ha	

**RESTRAINTS:**

DO NOT apply to waterlogged soil.

DO NOT apply if heavy rains or storms that are likely to cause surface runoff are forecast within two days of application.

DO NOT use rates higher than 1.0 kg/ha on soils with pH 8.0 and above as unacceptable crop damage may occur.

DO NOT apply more than once per crop, except for TT canola, where a post emergent application may follow an application made IBS or PSPE.

DO NOT use Terbyne if the area had a triazine herbicide applied to it last growing season.

DO NOT plant crops other than those recommended on this label for at least 6 months following treatments at rates up to 1.4 kg per hectare.

DO NOT apply by air.

USE ONLY coarse spray quality or larger according to ASAE S572 definition for nozzles.

**WITHHOLDING PERIODS:**

HARVEST: NOT REQUIRED WHEN USED AS DIRECTED.

GRAZING: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 6 WEEKS AFTER APPLICATION.

### 3.4 Results from residues trials presented to the APVMA

*Pulses (chickpeas, faba beans, field peas, lupins)*

Australian residue studies for terbuthylazine in lupins (four studies), faba beans (one study), field peas (two studies), and chick peas (five studies) were provided. A single post-sowing pre-emergent or incorporation by sowing application was made for each trial at 0.5-2X the proposed application rate. Residues were not found above the limit of quantitation of 0.02 mg/kg in any seed or 0.05 mg/kg in straw samples collected at harvest. Forage was collected at intervals from 42 to 92 days after application, with residues ranging from 0.14-2.1 mg/kg on a dry weight basis.

The data provided were sufficient to support a group MRL for terbuthylazine of \*0.02 mg/kg for pulses. A harvest withholding period is not required when the product is used as directed. An MRL of \*0.05 mg/kg is recommended for dry fodder of pulses, while an MRL of 5 mg/kg is recommended for pulse forage (green), in conjunction with a 6-week grazing withholding period.

*Canola*

Four Australian residues trials were conducted in canola. Plots were treated once with a post-sowing pre-emergent application of terbuthylazine at 0.93-1.9x the proposed maximum application rate. Some plots were also given an additional early post-emergent application at 525 g ai/ha. No residues of terbuthylazine were found in canola seed or dry fodder collected at harvest. Residues in canola forage collected between 42 and 91 days after application ranged from 0.13 to 3.1 mg/kg on a dry weight basis.

The data provided were sufficient to recommend an MRL of \*0.02 mg/kg for rape seed (canola). A harvest withholding period is not required when the product is used

as directed. An MRL of \*0.05 mg/kg is recommended for canola fodder (dry), while an MRL of 5 mg/kg is supported for canola forage (green), in conjunction with a 6-week grazing withholding period.

#### *Livestock*

Feeding studies were presented for beef cattle and lactating dairy cattle.

In the beef cattle feeding study, three animals were given terbuthylazine at 0.11 mg/kg bw/day (3.5 ppm in feed) for 28 days, three were given a dose of 0.55 mg/kg bw/day (17.5 ppm in feed), and one animal was used as an untreated control. No residues were found above the LOQ of 0.01 mg/kg in any tissue (liver, kidney, gluteal muscle, or subcutaneous and peri-renal fat) from the animals in the low dose group, while residues at the LOQ were found in the liver of one animal from the high dose group.

In the dairy cattle feeding study, three animals were given terbuthylazine at 0.13 mg/kg bw/day (approximately 3 ppm in feed) for 31 days, three were given a dose of 0.65 mg/kg bw/day (approximately 15 ppm in feed), and one animal was used as an untreated control. No residues were found above the LOQ in the milk from any animal in the study.

Given that levels of terbuthylazine in feed are not expected to exceed 5 ppm on a dry weight basis, residues are not expected to be found above the LOQ in mammalian milk, offal or meat, and MRLs at \*0.01 mg/kg in these commodities are recommended for terbuthylazine.

For poultry, detectable residues were not observed in pulses or canola seed. . A poultry feeding or metabolism study is not available and was not required. MRLs at \*0.01 mg/kg are recommended for poultry meat, offal and eggs, based on the LOQ of a GC/MS analytical method for animal commodities, that was validated for determination of terbuthylazine in eggs, as well as bovine muscle, fat, liver, kidney and milk.

#### 3.5 Overseas registration and approved label instructions

The applicant did not provide any information on overseas registrations of terbuthylazine in relevant crops.

#### 3.6 Codex Alimentarius Commission and overseas MRLs

The Codex Alimentarius Commission (Codex) is responsible for establishing Codex Maximum Residue Limits (CXLs) for pesticides. CXLs are primarily intended to facilitate international trade, and accommodate differences in Good Agricultural Practice (GAP) employed by various countries. Some countries may accept CXLs when importing foods. Codex (JMPR) have not considered terbuthylazine. Terbuthylazine has the following relevant overseas country MRLs.

**OVERSEAS TOLERANCES FOR TERBUTHYLAZINE IN RELEVANT COMMODITIES**

Country/status	Commodity	MRL/Tolerance, mg/kg	Reference
European Union	Beans (with pods)	0.1	EU Pesticides Database <a href="http://ec.europa.eu/food/plant/protection/pesticides/database_pesticide_en.htm">http://ec.europa.eu/food/plant/protection/pesticides/database_pesticide_en.htm</a>
	Beans (without pods)	0.1	
	Peas (with pods)	0.1	
	Peas (without pods)	0.1	
	Lentils	0.1	
	Other fresh legume vegetables	0.1	
	Beans	*0.05	
	Lentils	*0.05	
	Peas	0.1	
	Lupins	*0.05	
	Other pulses	*0.05	
	Linseed	0.1	
	Peanuts	0.1	
	Poppy seed	0.1	
	Sesame seed	0.1	
	Sunflower seed	0.1	
	Rape seed	0.1	
	Soya bean	0.1	
	Mustard seed	0.1	
	Cotton seed	0.1	
	Pumpkin seed	0.1	
	Safflower	0.1	
	Borage	0.1	
	Gold of pleasure	0.1	
	Hemp seed	0.1	
	Castor bean	0.1	
	Other oilseeds	0.1	
	Meat (swine, bovine, sheep, goat, horses, asses, mules, hinnies)	*0.05	
	Fat free of lean meat (swine, bovine, sheep, goat, horses, asses, mules, hinnies)	*0.05	
	Liver (swine, bovine, sheep, goat, horses, asses, mules, hinnies)	*0.05	
	Kidney (swine, bovine, sheep, goat, horses, asses, mules, hinnies)	*0.05	
	Edible offal (swine, bovine, sheep, goat, horses, asses, mules, hinnies)	*0.05	
Other animal products (swine, bovine, sheep, goat, horses, asses, mules, hinnies)	*0.05		

	Poultry meat	*0.05	
	Poultry fat	*0.05	
	Poultry liver	*0.05	
	Poultry kidney	*0.05	
	Poultry edible offal	*0.05	
	Other poultry products	*0.05	
	Milk, cream, butter and other milk fats, cheese and curd (cattle, sheep, goat, horse and other animals)	*0.05	
	Eggs (chicken, duck, goose, quail and others)	*0.05	
USA	No MRLs for terbuthylazine in pulses, oilseeds or animal commodities.		US Code of Federal Regulations Part 180, Tolerances and Exemptions from Tolerances for Pesticide Chemicals in Food, subpart C, as at 11 August 2009 ( <a href="http://ecfr.gpoaccess.gov">http://ecfr.gpoaccess.gov</a> ).
Canada	No MRLs for terbuthylazine in pulses, oilseeds or animal commodities.		List of Maximum Residue Limits Regulated Under the Pest Control Products Act, PMRA Canada, 10 June 2009 ( <a href="http://www.hc-sc.gc.ca/cps-spc/pest/index-eng.php">http://www.hc-sc.gc.ca/cps-spc/pest/index-eng.php</a> ).
Korea	No MRLs for terbuthylazine in pulses, oilseeds or animal commodities.		MRLs for Pesticides in Food, November 2008, Korea Food and Drug Administration ( <a href="http://www.kfda.go.kr/index.html">http://www.kfda.go.kr/index.html</a> ).
Japan	No MRLs for terbuthylazine in pulses, oilseeds or animal commodities.		Tables in 6(1) and 7(1), Section A, General Compositional Standards for Food, Part I Food (MRLs List), updated 5 February 2007, Japanese Ministry of Health, Labour and Welfare ( <a href="http://www.mhlw.go.jp/english/topics/foodsafety/positivelist060228/index.html">http://www.mhlw.go.jp/english/topics/foodsafety/positivelist060228/index.html</a> ).
Taiwan	No MRLs for terbuthylazine in pulses, oilseeds or animal commodities.		Pesticide Residue Limits in Foods, DOH Food No. 0960404388, amended 5 July 2007, Department of Health, Taiwan ( <a href="http://www.doh.gov.tw">www.doh.gov.tw</a> ).

### 3.7 Current and proposed Australian MRLs for terbuthylazine

#### Current MRLs

Table 1

Compound	Food	MRL (mg/kg)	
Terbuthylazine	MO 0105	Edible offal (mammalian)	T*0.01
	PE 0112	Eggs	T*0.01
	MM 0095	Meat (mammalian)	T*0.01
	ML 0106	Milks	T*0.01
	PO 0111	Poultry, edible offal of	T*0.01
	VD 0070	Pulses	T*0.02
	SO 0495	Rape seed [canola]	T*0.02

\*MRL set at the limit of quantitation.

Table 4

Compound	Animal feed commodity	MRL (mg/kg)
Terbuthylazine	Canola fodder (dry)	T*0.05
	Canola forage (green)	T5
	Forage of pulse crops (green)	T5
	Straw and fodder of pulse crops (dry)	T*0.05

\*MRL set at the limit of quantitation.

#### Proposed MRLs

Table 1

Compound	Food	MRL (mg/kg)	
Terbuthylazine	MO 0105	Edible offal (mammalian)	*0.01
	PE 0112	Eggs	*0.01
	MM 0095	Meat (mammalian)	*0.01
	ML 0106	Milks	*0.01
	PO 0111	Poultry, edible offal of	*0.01
	PM 0110	Poultry meat	*0.01
	VD 0070	Pulses	*0.02
	SO 0495	Rape seed [canola]	*0.02

\*MRL set at the limit of quantitation.

Table 4

Compound	Animal feed commodity	MRL (mg/kg)
Terbuthylazine	Canola fodder (dry)	*0.05
	Canola forage (green)	5
	Forage of pulse crops (green)	5
	Straw and fodder of pulse crops (dry)	*0.05

### 3.8 Potential Risk to Trade

Export of treated produce containing finite (measurable) residues of terbuthylazine 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.

Permanent MRLs are proposed at the LOQ for terbuthylazine in pulses, rapeseed (canola), mammalian and poultry meat and offal, milk and eggs. These standards are equivalent to, or lower than established overseas standards. The risk to overseas trade in pulses, canola, meat, eggs and dairy products is therefore considered to be low.

Comment is sought on the likelihood of the changes in use for TERBYNE 750 WG HERBICIDE to cause undue prejudice to trade.

## 4 CONCLUSION

Permanent MRLs are proposed at the LOQ for terbuthylazine in pulses, rapeseed (canola), mammalian and poultry meat and offal, milk and eggs. The risk to overseas trade in pulses, canola, meat, eggs and dairy products is considered to be low.

Comment is sought on the potential for terbuthylazine in TERBYNE 750 WG HERBICIDE to prejudice Australian trade when it is used as a pre-emergent herbicide in chickpeas, field peas, lupins, faba beans and canola.

A more detailed technical assessment report on the evaluation of the trade implications of this chemical can be obtained by contacting the APVMA at [to be arranged] alternatively, the reports can be viewed at the APVMA Library, which is located at:

18 Wormald Street

Symonston ACT, 2609 Office hours: 9.00 - 5.00 (EST) Monday to Friday