Australian Government

Australian Pesticides and Veterinary Medicines Authority

TRADE ADVICE NOTICE

on Sulfuryl fluoride in the Product ProFume Gas Fumigant

APVMA Product Number P59952

APRIL 2014

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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.

In undertaking this task, the APVMA works in close cooperation with advisory agencies, including the Department of Health and Ageing, Office of Chemical Safety and Environmental Health (OCSEH), Department of the Environment, Water, Heritage and the Arts (DEWHA), and State Departments of Primary Industry.

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 the APVMA's publication *Ag MORAG: Manual of Requirements and Guidelines*.

About this document

This is a Trade Advice Notice.

It indicates that the Australian Pesticides and Veterinary Medicines Authority (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 **ProFume Gas Fumigant** containing the existing active constituent sulfuryl fluoride 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. In relation to this document, these grounds relate to the **trade implications** of the extended use of the product. Comments received outside these grounds cannot be considered by the APVMA.

Submissions must be received by the APVMA by close of business on 9 May 2014 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 group name (if relevant)
- postal address
- email address (if available)
- the date you made the submission.

All personal and ***confidential commercial information (CCI)***[1] material contained in submissions will be treated confidentially.

Written submissions on the APVMA's proposal to grant the application for registration that relate to the **grounds for registration** should be addressed in writing to:

Contact Officer

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Phone: +61 2 6210 4748
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Email: pesticides@apvma.gov.au

Further information

Further information including a more detailed technical assessment report on the evaluation of the trade implications of this chemical can be obtained via the contact details provided above.

[1] A full definition of "confidential commercial information" is contained in the Agvet Code.

1 INTRODUCTION

The Australian Pesticides and Veterinary Medicines Authority (APVMA) has before it an application from Dow AgroSciences Australia Limited to vary the registration of the product, *ProFume Gas Fumigant*, containing 998 g/kg sulfuryl fluoride, to include use on pulses and oilseeds. The proposed variation requires the establishment of sulfuryl fluoride MRLs for the pulse and oilseed crop groups.

The potential for the proposed use to unduly prejudice trade in pulses and oilseeds, is discussed below.

2 TRADE CONSIDERATIONS

2.1 Commodities exported

Oilseeds (canola seed and cottonseed, including derived oils and meals) and pulses (lupins, field peas, chickpeas, faba beans, navy beans and mung beans) are major export commodities along with animals that have been fed feeds containing residues arising from the proposed use [2].

2.2 Destination of exports

The significant export markets for animal commodities are defined in Part 5B of MoRaG.

Major export markets for Australian oilseed and pulse commodities are presented below.

Table 1: Major export destinations for Australian oilseed and pulse commodities.

	MAJOR DESTINATION
CANOLA	Belgium, Netherlands, Pakistan, China, Japan, Bangladesh
CANOLA OIL	New Zealand, Republic of Korea, Malaysia, China, Japan
CANOLA MEAL	Vietnam, New Zealand, Taiwan
COTTONSEED	United States, Japan
COTTONSEED MEAL	Republic of Korea, New Zealand
PULSES	India, China, Egypt, Pakistan, Italy, United Arab Emirates, Spain

[2] www.apvma.gov.au/morag_ag/vol_3/part_05b_trade.php

2.3 Proposed Australian use-pattern

The proposed Australian use pattern for *ProFume Gas Fumigant (998 g/kg sulfuryl fluoride)* in pulses and oilseeds is summarised below.

Table 2: Proposed use pattern for *ProFume Gas Fumigant 998 g/kg sulfuryl fluoride*) on pulses and oilseeds

Rate of Use: For all fumigations, the maximum use rate is 1500 g-h/m^3 CTP. Do not exceed a maximum nominal concentration of **12.5** g/m^3 or a maximal fumigation time of 10 days to achieve 1500 g-h/m^3 CTP.

SITUATIONS	PESTS
Pulses, eg. azuki beans, chickpeas, faba/broad beans, field peas, lentils, lupins, mungbeans and vetch. **Oilseeds**, eg. canola, cottonseed, safflower, soybean and sunflower.	All life stages of stored product pests including; Indian meal moth (Plodia interpunctella), Mediterranean flour moth (Ephestia kuehniella), Confused flour beetle (Tribolium confusum), Rust red flour beetle (Tribolium castaneum), Warehouse beetle (Trogoderma variabile), Saw-toothed grain beetle (Oryzaephilus surinamensis), Dried fruit moth (Ephestia cautella), Drugstore beetle (Stegobium paniceum), Tobacco beetle (Lasioderma serricorne), Hide beetle (Dermestes maculatus), Grain weevil (Sitophilius granarius), Rice weevil (Sitophilius oryzae), Rust red grain beetle (Cryptolestes ferrugineus) and Lesser grain borer (Rhyzopertha dominica) Note: Not all seed varieties have been tested for viability following fumigation. Refer to Dow AgroSciences for specific advice (1-800-700-096).

CRITICAL COMMENTS:

The ProFume Applicator's Manual and the ProFume Fumiguide contain important information for the safe and effective use of this product. They must be used and must be in the user's possession during fumigation. Most fumigation can be achieved at much lower rates than the maximum. The ProFume Fumiguide*, a PC-based computer program, should be used to calculate the required dosage and the amount of ProFume needed specific to the situation. You must be trained under the Dow AgroSciences' Precision Fumigation program in order to access the ProFume Fumiguide*. If the ProFume Applicator's Manual is lost or access to the Fumiguide program has expired, contact your ProFume distributor or Dow AgroSciences' representative to obtain a replacement copy.

WITHHOLDING PERIOD:

Allow a minimum of 24 hours after the completion of aeration before releasing treated commodities for human consumption.

EXPORT TRADE ADVICE:

Users should note that suitable MRLs or import tolerances may not have been established in all markets for produce treated with ProFume Gas Fumigant. Before fumigating commodities for export, please check the latest information on MRLs and import tolerances, or consult with Dow AgroSciences.

2.4 Results from residues trials presented to the APVMA

The proposed use of sulfuryl fluoride involves application as a fumigant to stored oilseeds and pulses at a maximum use rate of 1500 g.h/m^3 Contact Time of Product (CTP).

In the Australian residue trials provided by the applicant, oilseed and pulse specimens were subjected to a single fumigation period of either five or ten days (120 or 240 hours) at concentrations of either 12.5 or 6.25 g ai/m^3 to obtain target exposures of 1500 g.h/m^3.

Residues of sulfuryl fluoride in pulses (chickpeas, field peas and lentils) were <0.008 (×3), 0.01, 0.02 (×2), 0.03 (×6) and 0.04 (×4) mg/kg. Residues of sulfuryl fluoride in oilseeds (cotton seed and canola) were 0.01 (×3), 0.02 (×4) and 0.03 mg/kg. The residue data supports the establishment of sulfuryl fluoride MRLs at 0.1 mg/kg for Oilseeds and Pulses. Residues of sulfuryl fluoride may further decline as it is desorbed (off-gassed) during transport and handling.

Fluoride ion concentrations in oilseeds and pulses were also determined. In oilseeds the median residue was 0.9 mg/kg and high residue 1.2 mg/kg. In pulses the median residue was 1.6 mg/kg and the high residue 3.1 mg/kg. Fluoride ion concentrations were below the limit of detection in untreated control samples (<0.5 mg/kg). MRLs for fluoride ion are not required in Australia as it occurs naturally in the environment and may be present in agricultural commodities at varying concentrations from natural sources.

2.5 Codex alimentarius commission and overseas MRLs

The Codex Alimentarius Commission (Codex) is responsible for establishing Codex Maximum Residue Limits (CXLs) for pesticides. 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. Sulfuryl fluoride residues and residues of its degradate fluoride ion have been considered by Codex, however, oilseeds and pulses were not considered by the JMPR. The following relevant overseas MRLs have been established for sulfuryl fluoride:

Table 3: Comparison of sulfuryl fluoride MRLs (mg/kg) for oilseeds and pulses

COUNTRY	COMMODITY	SULFURYL FLUORIDE TOLERANCE (mg/kg)
Australia	Oilseeds	0.1 (proposed)
	Peanuts	7
	Pulses	0.1 (proposed)
EU	Oilseeds	*0.01
	Peanuts	*0.01
	Pulses	*0.01
Japan	Beans, dried	0.5
	Broad beans	0.5
	Cotton seeds	0.5
	Other pulses [a]	0.5
	Other oil seeds [b]	0.5
	Peanut	0.5
	Peas	0.5
	Soybeans, dried	0.5
USA	All processed commodities not otherwise listed	2.0
	Cotton, undelinted seed, postharvest	0.5
	Peanut	0.5
	Vegetable, legume, group 6, postharvest	0.5

Note a: All legumes/pulses, except soybeans (dry), beans (dry)(including butter beans, cowbeans (red beans), lentil, lima beans, pegia, sultani, sultapyar and white beans), peas, broad beans, peanuts (dry) and spices. Note b: All oil seeds, except sunflower seeds, sesame seeds, safflower seeds, cotton seeds, rapeseeds and spices.

Table 4: Comparison of fluoride ion MRLs (mg/kg) for oilseeds and pulses. Fluoride ion MRLs are not established by Codex as fluoride is ubiquitous in the environment.

COUNTRY	COMMODITY	FLUORIDE ION TOLERANCE (mg/kg)
EU	Oilseeds	*2
	Pulses	*2
USA	Cotton, undelinted seed, postharvest	70
	Vegetable, legume, group 6, postharvest	70
	All processed food commodities not otherwise listed	70

2.6 Current and proposed Australian MRLs for sulfuryl fluoride

Current relevant MRLs and the residue definition for sulfuryl fluoride are presented below. A full listing of MRLs can be found at www.apvma.gov.au/residues/standard.php.

Table 5: Current entries in the MRL Standard

MRL STANDARD: TABLE 1

COMPOUND		FOOD	MRL (mg/kg)
SULFURYL FLUORIDE			
GC	0080	Cereal grains	0.05
DF	0167	Dried fruit	0.07
SO	0697	Peanut	7
TN	0085	Tree nuts	7

MRL STANDARD: TABLE 3

COMPOUND	RESIDUE
SULFURYL FLUORIDE	Sulfuryl fluoride

The following changes are proposed to Australian sulfuryl fluoride MRLs:

Table 6: Proposed changes to the MRL Standard – Table1

MRL STANDARD: TABLE 1

COMPOUND		FOOD	MRL (mg/kg)
SULFURYL FLUORIDE			
ADD:			
SO	0089	Oilseed [except peanut]	0.1
VD	0070	Pulses	0.1

2.7 Potential risk to trade

Export of treated produce containing finite (measurable) residues of sulfuryl fluoride 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.

While several overseas countries have established sulfuryl fluoride and fluoride ion MRLs in oilseeds and pulses, some key Australian export markets for these commodities have not. As detectable residues are expected to occur after fumigation when the product is used as directed this creates a potential risk to trade.

The EU have established MRLs for sulfuryl fluoride in oilseeds and pulses at *0.01 mg/kg, below the highest observed residue in oilseeds of 0.03 mg/kg, and the highest observed residue in pulses of 0.04 mg/kg.

MRLs for the fluoride ion in oilseeds and pulses have been established by the EU at *2 mg/kg. This is above the highest residue observed in treated oilseeds (1.2 mg/kg) and below the highest residue observed in treated pulses (3.1 mg/kg).

3 CONCLUSIONS

Comment is sought on the potential for residues resulting from the proposed use of *ProFume Gas Fumigant* on oilseeds and pulses to unduly prejudice Australian trade, and the ability of industry systems to manage that risk.