Proposed Maximum Residue Limit PMRL2017-02

Sulfentrazone

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Under the authority of the *Pest Control Products Act*, Health Canada's Pest Management Regulatory Agency (PMRA) has concluded that the addition of new uses on various commodities to the product label of Authority 480 Herbicide, containing technical grade sulfentrazone, is acceptable. The specific uses approved in Canada are detailed on the label of Authority 480 Herbicide, *Pest Control Products Act* Registration Number 29012.

The evaluation of this sulfentrazone application indicated that the end-use product has value and the human health and environmental risks associated with the new uses are acceptable.

Before registering a pesticide for food use in Canada, the PMRA must determine the quantity of residues that are likely to remain in or on the food when the pesticide is used according to label directions and that such residues will not be a concern to human health. This quantity is then legally established as a maximum residue limit (MRL). An MRL applies to the identified raw agricultural food commodity as well as to any processed food product that contains it, except where separate MRLs are specified for the raw agricultural commodity and a processed product made from it.

Consultation on the proposed MRLs for sulfentrazone is being conducted via this document (see Next Steps, the last section of this document). A summary of the field trial data used to support the proposed MRLs can be found in Appendix I.

To comply with Canada's international trade obligations, consultation on the proposed MRLs is also being conducted internationally by notifying the World Trade Organization, as coordinated by the Canada's Notification Authority and Enquiry Point.

The proposed MRLs, to be added to the MRLs already established for sulfentrazone, are as follows.

Table 1 Proposed Maximum Residue Limits for Sulfentrazone

Common Name	Residue Definition	MRL (ppm)[1]	Food Commodity
Sulfentrazone	*N*-[2,4-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1*H*-1,2,4-triazol-1-yl]phenyl]methanesulfonamide, including the metabolites *N*-(2,4-dichloro-5-(4-(difluoromethyl)-4,5-dihydro-5-oxo-	0.4	*Brassica* leafy greens (crop subgroup 4-13B)
		0.2	*Brassica*, head and stem vegetable (crop group 5-13)[2]

Common Name	Residue Definition	MRL (ppm)[1]	Food Commodity
	1*H*-1,2,4-triazol-1-yl)phenyl)methanesulfonamide, and *N*-(2,4-dichloro-5-(4-(difluoromethyl)-4,5-dihydro-3-hydroxymethyl-5-oxo-1*H*-1,2,4-triazol-1-yl)phenyl)methanesulfonamide	0.15	Fruiting vegetables (crop group 8-09); Berries and small fruits (crop group 13-07); tree nuts (crop group 14-11); apples, mustard seeds (condiment type), mustard seeds (oilseed type), succulent shelled broad beans

[1] ppm = parts per million
[2] Cabbage is excluded from this MRL action as a 0.2 ppm MRL is already established for this commodity.

MRLs are proposed for each commodity included in the listed crop groupings in accordance with the Residue Chemistry Crop Groups webpage in the Pesticides and Pest Management section of Health Canada's website.

MRLs established in Canada may be found using the Maximum Residue Limit Database on the Maximum Residue Limits for Pesticides webpage. The database allows users to search for established MRLs, regulated under the *Pest Control Products Act*, both for pesticides or for food commodities.

International Situation and Trade Implications

The MRLs proposed for sulfentrazone in Canada are the same as corresponding American tolerances as listed in the Electronic Code of Federal Regulations, 40 CFR Part 180, by pesticide. Currently, there are no Codex MRLs[1] listed for sulfentrazone in or on any commodity on the Codex Alimentarius Pesticide Residues in Food and Feed webpage.

Next Steps

The PMRA invites the public to submit written comments on the proposed MRLs for sulfentrazone up to 75 days from the date of publication of this document. Please forward your comments to Publications (see the contact information on the cover page of this document). The PMRA will consider all comments received before making a final decision on the proposed MRLs. Comments received will be addressed in a separate document linked to this PMRL. The established MRLs will be legally in effect as of the date that they are entered into the Maximum Residue Limit Database.

[1] The Codex Alimentarius Commission is an international organization under the auspices of the United Nations that develops international food standards, including MRLs.

Appendix I

Summary of Field Trial Data Used to Support the Proposed Maximum Residue Limits

Residue data for sulfentrazone in various crops were submitted to support the domestic use of Authority 480 Herbicide. In addition, previously reviewed residue data from field trials conducted in/on cabbage, strawberry, spearmint and peppermint tops, asparagus, and horseradish roots were reassessed in the framework of this petition. Processing studies conducted at exaggerated rates in treated apples, grapes, mint tops, and tomatoes were reviewed or reassessed to determine the potential for concentration of residues of sulfentrazone into processed commodities.

Maximum Residue Limits

The recommendation for maximum residue limits (MRLs) for sulfentrazone was based upon the submitted field trial data, and the guidance provided in the OECD MRL Calculator. Table A1 summarizes the residue data used to calculate the proposed MRLs for various crops.

Table A1 Summary of Field Trial and Processing Data Used to Support MRLs

Commodity	Application Method/ Total Application Rate (g a.i./ha)[1]	Preharvest Interval (days)	Lowest Average Field Trial Residues (ppm)	Highest Average Field Trial Residues (ppm)	Experimental Processing Factor
Mustard greens	Soil application / 103-121	40-60	<0.15	0.18	Not required
Broccoli	Soil application / 385-429	45-73	<0.15	<0.15	Not required
Cabbage	Soil application / 413-432	68-104	<0.15	0.18	Not required
Tomato	Soil application / 744-1100	19-21	<0.15	<0.15	No concentration of residues was observed in food commodities
Bell Peppers	Soil application / 828-873	19-21	<0.15	<0.15	Not required
Non-bell Peppers	Soil application / 841-853	19-22	<0.15	<0.15	Not required

Commodity	Application Method/ Total Application Rate (g a.i./ha)[1]	Preharvest Interval (days)	Lowest Average Field Trial Residues (ppm)	Highest Average Field Trial Residues (ppm)	Experimental Processing Factor
Grapes	Soil application / 416-433	3-30	<0.15	<0.15	No quantifiable residues were observed in food when treated at exaggerated rates
Strawberry	Soil application / 416-417	2-28	<0.15	<0.15	Not required
	Soil application / 426-448	56-189	<0.15	<0.15	
Blueberries	Soil application / 417-428	3-31	<0.15	<0.15	Not required
Blackberries	Soil application / 422-425	3-29	<0.15	<0.15	Not required
Raspberries	Soil application / 419-425	7	<0.15	<0.15	Not required
Elderberry	Soil application / 419-420	3-29	<0.15	<0.15	Not required
Fuzzy kiwifruit	Soil application / 423-438	3-30	<0.15	<0.15	Not required
Almond	Soil application / 420-430	3-28	<0.15	<0.15	Not required
Pecan	Soil application / 420-428	3-21	<0.15	<0.15	Not required
Apples	Soil application / 404-441	13-15	<0.15	<0.15	No concentration of residues was observed in food commodities
Asparagus	Soil application / 271-284	13-15	<0.15	<0.15	Not required
Lima beans	Soil application / 210-224	89-91	<0.15	<0.15	Not required
Horseradish	Soil application / 413-429	116-133	<0.15	<0.15	Not required

Commodity	Application Method/ Total Application Rate (g a.i./ha)[1]	Preharvest Interval (days)	Lowest Average Field Trial Residues (ppm)	Highest Average Field Trial Residues (ppm)	Experimental Processing Factor
Mint tops	Soil application / 420-437	92-130	<0.16	0.23	No concentration of residues was observed in food commodities
Flax seed[2]	Soil application / 409-429	111-123	<0.15	<0.15	Not required

[1] g a.i./ha = grams of active ingredient per hectare
[2] Flax seed was used to represent mustard seeds, as sulfentrazone is phytotoxic to canola, the representative commodity for crop subgroup 20A.

Following the review of all available data, MRLs as proposed in Table 1 are recommended to cover residues of sulfentrazone. Residues of sulfentrazone in these crop commodities at the proposed MRLs will not pose an unacceptable risk to any segment of the population, including infants, children, adults and seniors.