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Proposed Maximum Residue Limit

PMRL2009-02

Carfentrazone-ethyl

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Under the authority of the *Pest Control Products Act*, Health Canada's Pest Management Regulatory Agency (PMRA) has granted conditional registration to technical grade carfentrazone-ethyl and the end-use product AIM EC for use in Canada on root and tuber vegetables (Crop Group 1), bulb vegetables (Crop Group 3), leafy vegetables (Crop Groups 4 and 5), legume vegetables (Crop Group 6), fruiting vegetables (Crop Group 8), cucurbit vegetables (Crop Group 9), pome fruits (Crop Group 11), stone fruits (Crop Group 12), berries (Crop Group 13), cereal grains (Crop Group 15), oilseeds (Crop Group 20), grapes and strawberries. See Appendix I for a list of crop group commodities. The specific uses approved in Canada are detailed on the product label of AIM EC, *Pest Control Products Act* Registration Number 28573.

The Agency is further proposing conversion from conditional to full registration in accordance with the consultation document published on 26 May 2009, Proposed Registration Decision PRD2009-06, *Carfentrazone-ethyl*.

The evaluation of these carfentrazone-ethyl applications indicated that the end-use product has merit and value and that the human health and environmental risks associated with the new uses are acceptable. Details regarding these registrations can be found in Evaluation Report ERC2008-05, *Carfentrazone-ethyl*.

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 carfentrazone-ethyl is being conducted via PRD2009-06. ERC2008-05 includes information regarding the proposed MRLs in Section 3.5.4 and Appendix II, which addresses the international situation and trade implications. Supporting field trial residue data are provided in Appendix I, Table 5 of the Evaluation Report.

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 Standards Council of Canada.

The proposed MRLs for carfentrazone-ethyl in Canada in or on food are as follows.

Table 1 Proposed Maximum Residue Limits for Carfentrazone-ethyl

Common Name	Residue Definition	MRL (ppm)	Food Commodity
Carfentrazone-ethyl	ethyl α , 2-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1 <i>H</i> -1,2,4-triazol-1-yl]-4-fluorobenzenepropanoate, including the metabolite α , 2-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1 <i>H</i> -1,2,4-triazol-1-yl]-4-fluorobenzenepropanoic acid	0.8	Milling fractions of barley, buckwheat, millet, oat, rye, triticale and wheat
		0.25	Sorghum
		0.1	Root and tuber vegetables (Crop Group 1), bulb vegetables (Crop Group 3), leafy vegetables except <i>Brassica</i> (Crop Group 4), <i>Brassica</i> (cole) leafy vegetables (Crop Group 5), legume vegetables (Crop Group 6), fruiting vegetables (Crop Group 8), cucurbit vegetables (Crop Group 9), pome fruits (Crop Group 11), stone fruits (Crop Group 12), berries (Crop Group 13), cereal grains (Crop Group 15) except rice and sorghum, oilseeds (Crop Group 20), grapes, strawberries
		0.1	Fat, meat and meat byproducts of cattle, goats, horses and sheep
		0.05	Milk

MRLs are proposed for each commodity included in the listed crop groupings in accordance with Appendix I.

A complete list of all MRLs established in Canada can be found on the Maximum Residue Limits for Pesticides webpage in the Pesticides and Pest Management section of Health Canada's website.

International Situation and Trade Implications

MRLs may vary from one country to another for a number of reasons, including differences in pesticide use patterns and the locations of the field crop trials used to generate residue chemistry data. The proposed Canadian MRLs are the same as corresponding tolerances established in the United States (tolerances listed in 40 CFR Part 180 by pesticide) except for the commodity identified in Table 2. Currently, Codex MRLs¹ have not been established for carfentrazone-ethyl on any commodity (Codex MRLs searchable by pesticide or commodity).

Table 2 Comparison of Canadian MRLs, American Tolerances and Codex MRLs (where different)

Food Commodities	Canadian MRL (ppm)	American Tolerance (ppm)	Codex MRL (ppm)
Milling fractions of buckwheat	0.8	0.1*	No Codex MRL established

* A separate tolerance is not established for buckwheat milling fractions, which is therefore covered by the tolerance for the raw agricultural commodity captured under “Grain, cereal, group 15”.

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

Appendix I

Crop Groups: Numbers and Definitions

Crop Group Number	Name of the Crop Group	Food Commodities Included in the Crop Group
1	Root and tuber vegetables	Arracacha Arrowroot Black salsify roots Carrot roots Cassava roots Celeriac roots Chayote roots Chicory roots Chinese artichokes Chufa Edible burdock roots Edible canna Garden beet roots Ginger roots Ginseng roots Horseradish roots Jerusalem artichokes Lerens Oriental radish roots Parsnip roots Potatoes Radish roots Rutabaga roots Salsify roots Skirret roots Spanish salsify roots Sugar beet roots Sweet potato roots Tanier corms Taro corms True yam tubers Turmeric roots Turnip roots Turnip-rooted chervil roots Turnip-rooted parsley roots Yam bean roots

Crop Group Number	Name of the Crop Group	Food Commodities Included in the Crop Group
3	Bulb vegetables	Dry bulb onions Garlic Great headed garlic Green onions Leeks Potato onions Rakkyo Shallots Tree onion tops Welsh onion tops
4	Leafy vegetables except <i>Brassica</i>	Amaranth Arugula Cardoon Celery Celtuce Chinese celery Corn salad Dandelion leaves Dock Edible leaved chrysanthemum Endives Fresh chervil leaves Fresh Florence fennel leaves and stalk Fresh parsley leaves Garden cress Garden purslane Garland chrysanthemum Head lettuce Leaf lettuce New Zealand spinach Orach leaves Radicchio Rhubarb Spinach Swiss chard Upland cress Vine spinach Winter purslane

Crop Group Number	Name of the Crop Group	Food Commodities Included in the Crop Group
5	<i>Brassica</i> (cole) leafy vegetables	Bok choy Chinese cabbages Broccoli Broccoli raab Brussels sprouts Cabbages Cauliflower Chinese broccoli Chinese mustard cabbages Collards Kale Kohlrabi Mustard greens Mustard spinach Napa Chinese cabbages Rape greens
6	Legume vegetables	Dry adzuki beans Dry beans Dry blackeyed peas Dry broad beans Dry catjang seed Dry chickpeas Dry field peas Dry guar seed Dry kidney beans Dry lablab beans Dry lentils Dry lima beans Dry moth beans Dry mung beans Dry navy beans Dry pigeon peas Dry pink beans Dry pinto beans Dry rice beans Dry southern peas Dry soybeans Dry tepary beans Dry urd beans Edible-podded dwarf peas Edible-podded jackbeans Edible-podded moth beans Edible-podded peas

Crop Group Number	Name of the Crop Group	Food Commodities Included in the Crop Group
		Edible-podded pigeon peas Edible-podded runner beans Edible-podded snap beans Edible-podded snow peas Edible-podded soybeans Edible-podded sugar snap peas Edible-podded swordbeans Edible-podded wax beans Edible-podded yardlong beans Grain lupin Succulent shelled blackeyed peas Succulent shelled broad beans Succulent shelled English peas Succulent shelled garden peas Succulent shelled green peas Succulent shelled lima beans Succulent shelled peas Succulent shelled pigeon peas Succulent shelled southern peas
8	Fruiting vegetables	Bell peppers Eggplants Groundcherries Non-bell peppers Pepinos Pepper hybrids Tomatillos Tomatoes

Crop Group Number	Name of the Crop Group	Food Commodities Included in the Crop Group
9	Cucurbit vegetables	Balsam apples Balsam pears Cantaloupes Chayote fruit Chinese cucumbers Chinese waxgourds Citron melons Cucumbers Edible gourds (other than those listed in this item) Muskmelons (other than those listed in this item) Pumpkins Summer squash Watermelons West Indian gherkins Winter squash
11	Pome fruits	Apples Crabapples Loquats Mayhaws Oriental pears Pears Quinces
12	Stone fruits	Apricots Nectarines Peaches Plumcots Plums Prune plums Sweet cherries Tart cherries
13	Berries	Blackberries Blueberries Currants Elderberries Gooseberries Huckleberries Loganberries Raspberries

Crop Group Number	Name of the Crop Group	Food Commodities Included in the Crop Group
15	Cereal grains	Barley Buckwheat Field corn Oats Pearl millet Popcorn grain Proso millet Rice* Rye Sorghum* Sweet corn kernels plus cob with husks removed Teosinte Triticale Wheat Wild rice
20	Oilseeds	Flaxseed Mustard seeds (oilseed type) Rapeseed (canola) Safflower seeds Sunflower seeds

* Excluded from the 0.1 ppm MRL proposed for cereal grains. An MRL for rice is not being established and a distinct MRL of 0.25 ppm is proposed for sorghum.