Proposed Maximum Residue Limit PMRL2025-13

Dimethenamid

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Purpose of consultation

A maximum residue limit (MRLs)[1] is being proposed for the pesticide dimethenamid-P, as part of the following application for Canadian use, submitted by BASF Canada Inc, Fresh Vegetable Growers of Ontario, and the Ontario Ministry of Agriculture, Food, and Rural Affairs under submission number 2023-6653.

Under the authority of the *Pest Control Products Act*, Health Canada's Pest Management Regulatory Agency (PMRA) is proposing acceptability of the requested application to add the new commodity of Brussels sprouts to the product label of Frontier Max Herbicide containing technical grade dimethenamid-P for the control of labelled weeds, as a foliar application prior to transplanting or within 7 days of transplanting. The specific uses approved in Canada are detailed on the product label, *Pest Control Products Act* Registration Number 29194.

The evaluation of this dimethenamid-P application indicated that the end-use product has value, and the human health and environmental risks associated with the new use are acceptable. Dietary risks from the consumption of food listed in Table 1 were shown to be acceptable when dimethenamid-P is used according to the supported label directions. Therefore, food containing residues resulting from this use is safe to eat, and an MRL is being proposed as a result of this assessment. A summary of the field trial data used to support the proposed MRL can be found in Appendix I.

Dietary health assessment

In assessing the risk of a pesticide, Health Canada combines information on pesticide toxicity with information on the degree and duration of dietary exposure to the pesticide residue from food. The risk assessment process involves four distinct steps:

(1) Identifying the toxicology hazards posed by the pesticide;

(2) Determining the "acceptable dietary level" for Canadians (including all vulnerable populations), which is protective of adverse health effects;

(3) Estimating human dietary exposure to the pesticide from all applicable sources (domestic and imported commodities); and

(4) Characterizing health risk by comparing the estimated human dietary exposure to the acceptable dietary level.

Before registering a pesticide for food use in Canada, Health Canada must determine the quantity of residues that could 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 (Steps 3 and 4 above). If estimated human exposure is less than or equal to the acceptable level (developed in Step 2 above), Health Canada concludes that consuming residues resulting from use according to approved label directions is not a health concern. The proposed MRL is then subject to

[1] A maximum residue limit (MRL) is the maximum amount of residue that may remain in or on food when a pesticide is used according to label directions.

consultation to legally specify it as an MRL. An MRL applies to the identified raw agricultural food commodity as well as to any processed food product that contains it, except for certain instances where different MRLs are specified for the raw agricultural commodity and its processed product(s).

Residues of the resolved isomer dimethenamid-P are covered by MRLs established for dimethenamid, the unresolved isomeric mixture. Consultation on the proposed MRL for dimethenamid is being conducted via this document.

Health Canada invites the public to submit written comments on the proposed MRL for dimethenamid in accordance with the process outlined in the How to get involved Section of this document.

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

Proposed MRL

The proposed MRL, to be added to the MRLs already established for dimethenamid, is summarized in Table 1.

Table 1 Proposed maximum residue limit for dimethenamid

Common name	Residue definition	MRL (ppm)[1]	Food commodity
Dimethenamid	2-chloro-*N*-(2,4-dimethyl-3-thienyl)-*N*-(2-methoxy-1-methylethyl)acetamide	0.01	Brussels sprouts

[1] ppm = parts per million

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

As per Table 2, currently there are no tolerances in the United States (U.S.) for dimethenamid in or on the petitioned commodities listed in the Electronic Code of Federal Regulations, 40 CFR Part 180, by pesticide; nor are there Codex MRLs[2] listed for dimethenamid in or on the petitioned commodity on the Codex Alimentarius Pesticide Index webpage.

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

Table 2 Comparison of Proposed Canadian MRL, U.S. Tolerance and Codex MRL

Food commodity	Proposed Canadian MRL (ppm)	Established U.S. Tolerance (ppm)	Established Codex MRL (ppm)
Brussels sprouts	0.01	Not Established	Not Established

How to get involved

Health Canada invites the public to submit written comments on the proposed MRL for dimethenamid up to 75 days from the date of publication of this document (by 12 October 2025). Please forward your comments to Publications. Health Canada will consider all comments received and a science-based approach will be applied in making a final decision on the proposed MRL. Comments received will be addressed in a response to comments document found in Pesticides and pest management consultations. The established MRL will be legally in effect as of the date that it is entered into the Maximum Residue Limit Database.

Appendix I

Summary of field trial data used to support the proposed maximum residue limit

Health Canada scientists reassessed previously reviewed residue data from field trials conducted for dimethenamid in/on cabbages, as cabbage is a representative commodity for crop group 5-13 (*Brassica* head and stem vegetables) which includes Brussels sprouts.

Dietary risk assessment results

Acute dietary (food plus drinking water) intake estimates indicated that the general population and all population subgroups are exposed to less than 3% of the acute reference dose, and therefore there are no health concerns.

Chronic dietary (food plus drinking water) intake estimates indicated that the general population and all population subgroups are exposed to less than 11% of the acceptable daily intake, and therefore there are no health concerns.

Maximum residue limit

The recommendation for maximum residue limit (MRL) for dimethenamid was based upon the field trial data, and the guidance provided in the OECD MRL Calculator. Table A1 summarizes the residue data for dimethenamid used to calculate the proposed MRL for Brussels sprouts.

Table A1 Summary of field trial data used to support the MRL

Commodity	Application method/Total application rate (g a.i./ha)[1]	Preharvest interval (days)	Lowest average field trial residues[2] (ppm)	Highest average field trial residues[2] (ppm)
Cabbages	Foliar/ 1188–1261	58–77	<0.01	<0.01

[1] g a.i./ha = grams of active ingredient per hectare. Trials were conducted with a racemic mixture of dimethenamid. A racemic mixture contains 50% of each isomer, so the application rate is equivalent to 594-631 g/ha of dimethenamid-P.

[2] Residues of dimethenamid, the unresolved isomeric mixture, including dimethenamid-P.

Following the review of all available data, the MRL proposed in Table 1 is recommended, in order to cover residues of dimethenamid. Dietary risks from exposure to residues of dimethenamid in this crop commodity at the proposed MRL were shown to be acceptable for the general population and all subpopulations, including infants, children, adults and seniors. Thus, the foods that contain residues as listed in Table 1 are considered safe to eat.

References

None.