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Proposed Maximum Residue Limit

PMRL2023-31

Chloropicrin

(publié aussi en français)

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Purpose of consultation

A maximum residue limit (MRL)¹ is being proposed for the pesticide chloropicrin, as part of the following applications for Canadian use, under submission numbers 2021-1075 and 2021-1076.

Under the authority of the [Pest Control Products Act](#), Health Canada's Pest Management Regulatory Agency (PMRA) has accepted the requested applications to add the new commodities of stalk, stem and leaf petioles (crop group 22) to the product labels of Chloropicrin 100 Liquid Soil Fumigant and Pic Plus Fumigant containing technical grade chloropicrin, to control certain fungal diseases and nematodes. The specific uses approved in Canada are detailed on these product labels, *Pest Control Products Act* Registration Numbers [25863](#) and [28715](#), respectively.

The evaluation of these chloropicrin applications indicated that the end-use products have value, and the human health and environmental risks associated with the new uses are acceptable. Dietary risks from the consumption of foods listed in Table 1 were shown to be acceptable when chloropicrin is used according to the supported label directions. Therefore, foods containing residues resulting from this use are 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 human 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 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).

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 on the proposed MRL for chloropicrin is being conducted via this document. Health Canada invites the public to submit written comments on the proposed MRL for chloropicrin in accordance with the process outlined in the Next steps 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 replace MRLs already established for chloropicrin, is summarized in Table 1.

Table 1 Proposed maximum residue limit for chloropicrin

| Common name | Residue definition | MRL (ppm) ^{1,2} | Food commodity |
|--------------|-----------------------|--------------------------|--|
| Chloropicrin | Trichloronitromethane | 0.025 | Stalk, stem, and leaf petioles (crop group 22) |

¹ ppm = parts per million

² The MRL is proposed to replace the currently established MRLs of 0.025 ppm in/on asparagus, cardoon, celery, celtuce, Chinese celery, fresh Florence fennel leaves and stalks, kohlrabies and rhubarb with a single crop group 22 MRL. This will result in a single MRL that will be applicable to all commodities within crop group 22.

The commodities included in the listed crop groups/subgroups can be found on the [Residue Chemistry Crop Groups](#) webpage in the [Pesticides section](#) of Canada.ca.

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

Currently, there are no Codex MRLs² listed for chloropicrin in or on any commodity on the Codex Alimentarius [Pesticide Index](#) webpage, nor are there American tolerances for chloropicrin in or any commodity on the [Electronic Code of Federal Regulations](#), 40 CFR Part 180.

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

Next steps

Health Canada invites the public to submit written comments on the proposed MRL for chloropicrin 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). 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 separate document linked to this PMRL. 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

Previously reviewed residue data from field trials conducted in/on peppers, squash, cantaloupe, tomatoes, cucumbers, *Brassica* crops, turnips, potatoes, spices, sweet potatoes and radish were reassessed in the framework of this petition. In addition, soil and plant metabolism studies on file for chloropicrin were also reassessed.

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 73% 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 28% of the acceptable daily intake, and therefore there are no health concerns.

Maximum residue limit

The recommendation for the maximum residue limit (MRL) for chloropicrin was based upon the reassessed field trial data, and the guidance provided in the [OECD MRL Calculator](#). Field trial data on peppers, squash, cantaloupe, tomatoes, cucumbers, *Brassica* crops, turnips, potatoes, spices, sweet potatoes and radish did not indicate any quantifiable residues of chloropicrin.

Following the review of all available data, the MRL proposed in Table 1 is recommended in order to cover residues of chloropicrin. Dietary risks from exposure to residues of chloropicrin in these crop commodities 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.