Proposed Maximum Residue Limit PMRL2020-38

# Chlormequat chloride

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Publications
Pest Management Regulatory Agency
Health Canada
2720 Riverside Drive
A.L. 6607 D
Ottawa, Ontario K1A 0K9

Internet: canada.ca/pesticides
hc.pmra.publications-arla.sc@canada.ca
Facsimile: 613-736-3758
Information Service:
1-800-267-6315 or 613-736-3799
hc.pmra.info-arla.sc@canada.ca

Canada

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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 barley and oats to the product label of Manipulator 620, containing technical grade chlormequat chloride, is acceptable. The specific uses approved in Canada are detailed on the label of Manipulator 620, *Pest Control Products Act* Registration Number 31462.

The evaluation of this chlormequat chloride 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 chlormequat chloride is being conducted via this document (see Next steps). 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 replace or be added to the MRLs already established for chlormequat chloride, are as follows.

**Table 1 Proposed maximum residue limits for chlormequat chloride**

| Common name | Residue definition | MRL (ppm)[1] | Food commodity |
|---|---|---|---|
| Chlormequat chloride | 2-chloro-*N,N,N*-trimethylethanaminium chloride | 80 | Oat bran |
| | | 40 | Oats |
| | | 20 | Barley bran, wheat germ |
| | | 15 | Wheat bran |
| | | 8 | Barley |
| | | 5 | Wheat[2] |
| | | 0.7 | Meat byproducts of cattle, goats, horses and sheep |
| | | 0.4 | Milk |
| | | 0.09 | Eggs; meat of cattle, goats, horses and sheep |
| | | 0.08 | Fat of cattle, goats, horses and sheep |

| Common name | Residue definition | MRL (ppm)[1] | Food commodity |
|---|---|---|---|
| | | 0.06 | Meat byproducts of poultry |
| | | 0.05 | Fat, meat and meat byproducts of hogs; fat and meat of poultry |

[1] ppm = parts per million
[2] Proposed to replace established MRL of 1 ppm for wheat.

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**

MRLs may vary from one country to another for a number of reasons, including differences in pesticide use patterns and the locations of the crop field trials used to generate residue chemistry data. For livestock commodities, differences in MRLs can also be due to different livestock feed items and practices.

Table 2 compares the MRLs proposed for chlormequat chloride in Canada with corresponding American tolerances and Codex MRLs.[1] American tolerances are listed in the Electronic Code of Federal Regulations, 40 CFR Part 180, by pesticide. A listing of established Codex MRLs is available on the Codex Alimentarius Pesticide Index webpage, by pesticide or commodity.

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

| Food commodity | Canadian MRL (ppm) | American Tolerance (ppm) | Codex MRL (ppm) |
|---|---|---|---|
| Oat bran | 80 | 10[1] | 4[1] |
| Oats | 40 | 40 (Oat grain) | 4 |
| Barley bran | 20 | 2.0[1] | 2[1] |
| Wheat germ | 20 | 3.0[1] | 2[1] |
| Wheat bran | 15 | 3.0[1] | 7 (Unprocessed wheat bran) |
| Barley | 8 | 2.0 (Barley grain) | 2 |
| Wheat | 5 | 3.0 (Wheat grain) | 2 |

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

| Food commodity | Canadian MRL (ppm) | American Tolerance (ppm) | Codex MRL (ppm) |
|---|---|---|---|
| Meat byproducts of cattle, goats, horses and sheep | 0.7 | 0.50 (Meat byproducts of cattle, goat and sheep) | 1 (Edible offal (mammalian)) |
| Milk | 0.4 | 0.50 | 0.3 (Milks) |
| Eggs | 0.09 | 0.10 | 0.1 |
| Meat of cattle, goats, horses and sheep | 0.09 | 0.20 (Meat of cattle, goat and sheep) | 0.2 (Meat (from mammals other than marine mammals)) |
| Fat of cattle, goats, horses and sheep | 0.08 | None | 0.1 (Mammalian fats (except milk fats)) |
| Meat byproducts of poultry | 0.06 | 0.10 | 0.1 (Poultry edible offal) |
| Fat of hogs | 0.05 | None | 0.1 (Mammalian fats (except milk fats)) |
| Meat of hogs | 0.05 | 0.20 (Meat of hog) | 0.2 (Meat (from mammals other than marine mammals)) |
| Meat byproducts of hogs | 0.05 | 0.50 (Meat byproducts of hog) | 1 (Edible offal (mammalian)) |
| Fat of poultry | 0.05 | None | 0.04 (Poultry fats) |
| Meat of poultry | 0.05 | 0.04 | 0.04 |

[1] In the absence of a specific MRL for the processed commodity, the MRL for the raw agricultural commodity applies.

## Next steps

The PMRA invites the public to submit written comments on the proposed MRLs for chlormequat chloride 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.

# Appendix I

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

Residue data from field trials conducted in Canada and the United States on barley, wheat and oats were submitted to support the domestic use of chlormequat chloride on these crops. In addition, processing studies in treated barley, oat and wheat were reviewed to determine the potential for concentration of residues of chlormequat chloride into processed commodities.

## Maximum residue limits

The recommendation for maximum residue limits (MRLs) for chlormequat chloride 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.

**Table A1 Summary of field trial and processing data used to support the MRLs**

| Commodity | Application method/ Total application rate (kg a.i./ha)[1] | Preharvest interval (days) | Lowest average field trial residues (ppm) | Highest average field trial residues (ppm) | Experimental processing factor |
|---|---|---|---|---|---|
| Barley grain | Broadcast foliar/ 1.36-1.5[2] | NCH[3] | 0.161 | 4.99 | 3.10× [bran]<br>0.93× [pot barley]<br>0.29× [pearled barley]<br>0.26× [flour] |
| Oat grain | Broadcast foliar/ 1.38-1.48 | NCH[3] | 0.021 | 22.8 | 3.4× [coarse bran][4]<br>0.74× [groats/rolled oats]<br>0.68× [flour] |
| Wheat grain | Broadcast foliar/ 1.05-1.14 | NCH[3] | 0.339 | 3.78 | 5.0× [germ]<br>3.4× [coarse bran]<br>0.1× [flour] |

[1] kg a.i./ha = kilograms of active ingredient per hectare
[2] Chlormequat chloride residue levels from Canadian barley trials were scaled based on the proportionality concept.
[3] NCH = normal commercial harvest
[4] Processing factor extended from wheat coarse bran.

Based on the dietary burden and residue data, the following MRLs are also proposed to cover residues of chlormequat chloride in/on livestock commodities:

- 0.7 ppm: Meat byproducts of cattle, goats, horses and sheep
- 0.4 ppm: Milk
- 0.09 ppm: Eggs; meat of cattle, goats, horses and sheep
- 0.08 ppm: Fat of cattle, goats, horses and sheep
- 0.06 ppm: Meat byproducts of poultry
- 0.05 ppm: Fat, meat and meat byproducts of hogs; fat and meat of poultry

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