

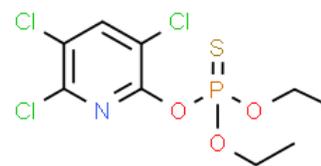


PreventCancerNow.ca

**Submission Regarding:
Chlorpyrifos and Its Associated End-use Products:
Updated Environmental Risk Assessment
Proposed Re-evaluation Decision PRVD2019-05**

August 29, 2019

Submitted via email:
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Summary

Canada's Pest Management Regulatory Agency proposes largely to discontinue registrations of chlorpyrifos products, but to maintain registration for:

1. Standing water - temporary pools for larval mosquito control;
2. Outdoor adult mosquito control;
3. Structural indoor and outdoor (non-residential);
4. Outdoor ornamentals (container stock only) for control of Japanese beetle larvae; and
5. Greenhouse ornamentals.

Prevent Cancer Now maintains that chlorpyrifos is excessively persistent and toxic for these uses, that there are preferable alternatives, and that it should be taken off the market forthwith.

Background on chlorpyrifos

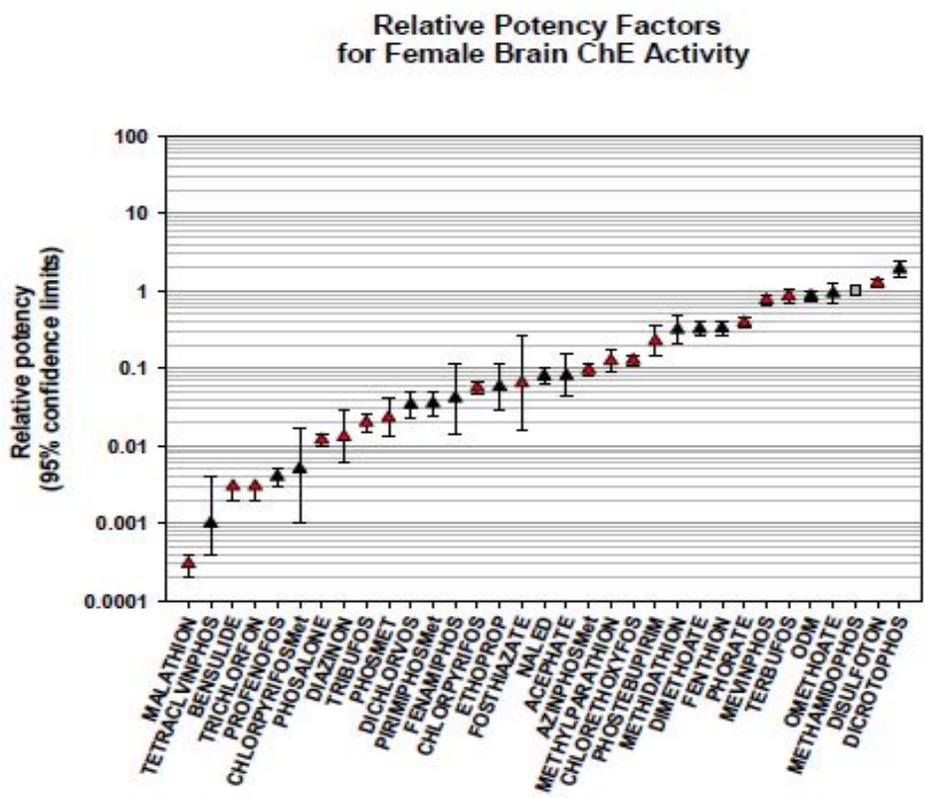
Chlorpyrifos is a potent, persistent, mobile insecticide that has been in production longer than the majority of Canadians have been alive. It has become a global pollutant, being found even in Arctic ice.¹

Chlorpyrifos kills insects by interfering with nerve transmissions; acute exposures also affect humans' brain and nervous system, as well as respiration. In the developing child it causes permanent brain damage. Although chlorpyrifos was not itself assessed, it is an organophosphate – a member of a family of chemicals that the International Agency for Research on Cancer indicated in 2015 (monograph published in 2017) probably causes cancer.²

Chlorpyrifos is commonly implicated in the initiation of the condition known as multiple chemical sensitivity (MCS).³ Previous versions of the "Dursban" label (a commercial name for chlorpyrifos insecticide) noted that exposure to this organophosphate could cause sensitization such that an individual would in the future become symptomatic upon exposure to even low levels of *any* organophosphate pesticide. Use of Dursban or Pyrate, particularly in structures where it

results in long-term ongoing exposure, has been noted by affected individuals as being the initiator. Canadian Community Health Survey data indicate higher incidence of cancers and other chronic diseases among individuals with MCS (Margaret Parlor, unpublished). Canada requires greater accountability, and recording of exposures to pesticides and other toxicants, so that eventually it will be possible to research and understand the increases in chronic diseases, particularly in the young.

There is a large number of insecticides that inhibit Acetylcholine esterase (AChE), and chlorpyrifos is a much stronger inhibitor than some commonly used alternatives such as malathion (an approximately 700-fold less potent inhibitor, see Figure). *Prevent Cancer Now* does not advocate use of malathion because it is among the potential carcinogens assessed by IARC.



U.S. Environmental Protection Agency. Organophosphorus Cumulative Risk Assessment – 2006 Update. Available at: http://www.epa.gov/pesticides/cumulative/2006-op/op_cra_main.pdf
http://www.epa.gov/pesticides/cumulative/2006-op/op_cra_appendices_part1.pdf

The European Food Safety Authority reported in August 2019 that chlorpyrifos and chlorpyrifos-methyl test data and public scientific literature demonstrated adverse neurological and developmental effects at such low levels that it was not possible to establish a “reference dose” (no-effect dose), and therefore risk assessments could not be conducted and thus the necessary approval criteria were not met.⁴ It is expected that the insecticides will be discontinued completely.

Proposed continuing uses of chlorpyrifos are not justifiable

As long as chlorpyrifos is on the market, and in sheds and trucks of pesticide applicators, it will be used. Neither the federal government nor provincial governments have the wherewithal to educate and police the small specialized of proposed continuing uses. If insecticide is being applied to lilies, it may well be applied to other plants in the greenhouse. This represents an unnecessary toxic exposure, and for a mother-to-be working in a greenhouse, it may even represent a lifetime of impairment for her offspring. Therefore, the prudent, logical step is to discontinue registration of this toxic, unnecessary chemical.

Mosquito control: Safer alternatives for both larval and adult mosquito control include bacterial products (e.g., Bt_k), repellants (including garlic spray for landscapes), and physical protective measures (e.g., nets).

Structural pest control: This is an application noted frequently as initiating MCS. Safer alternatives include addressing structural issues that create habitat for pests (e.g., moisture), using pest-proof materials such as concrete, and as an adjunct, alternative safer products may be helpful.

Ornamental plants: No parent of a child harmed for life by a neurotoxin would agree that potent, persistent toxic chemicals should be used on ornamental plants. There are alternative means to control pests, and there are alternative, hardier ornamental plants.

We look forward to a strong restriction, so that this toxicant will not pose temptation to be used inappropriately. Please do not hesitate to contact us, if we can assist in this matter.

Respectfully submitted,

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References

1. Hoferkamp L, Hermanson MH, Muir DCG. Current use pesticides in Arctic media; 2000–2007. *Science of The Total Environment*. 2010 Jul 1;408(15):2985–94.
2. IARC Working Group on the Evaluation of Carcinogenic Risks to Humans. Some organophosphate insecticides and herbicides [Internet]. 2017 [cited 2018 Apr 21]. Available from: <http://www.ncbi.nlm.nih.gov/books/NBK436774/>
3. Ziem G, McTamney J. Profile of patients with chemical injury and sensitivity. *Environ Health Perspect*. 1997 Mar;105(Suppl 2):417–36.
4. European Food Safety Authority. Statement on the available outcomes of the human health assessment in the context of the pesticides peer review of the active substance chlorpyrifos-methyl. *EFSA Journal* [Internet]. 2019 Aug 2; Available from: <https://www.efsa.europa.eu/en/efsajournal/pub/5810>