



January 10, 2020

**Environmental Working Group Comments to the Environmental Protection Agency
Docket ID: EPA-HQ-OPP-2008-0331
Subject: Re-Evaluation of the FQPA Safety Factor for the Pyrethroids**

The Environmental Working Group, a nonprofit research and policy organization with offices in Washington, D.C., Minneapolis, Minn., San Francisco and Sacramento, Calif., submits comments on the Environmental Protection Agency's Re-Evaluation of the FQPA Safety Factor for the Pyrethroids, released in July 2019.¹ EWG has researched pesticide toxicity since 1993, especially the risks of pesticides to children's health. EWG finds that the growing number of studies on pyrethroid toxicity supports the application of the tenfold children's health safety factor stipulated by the Food Quality Protection Act due to the fact that adverse effects of pyrethroid exposure on neurodevelopment and cognitive functions in children have been observed in epidemiological studies.²

The EPA's reevaluation document stated that the FQPA safety factor for pyrethroids can be removed (reduced to 1X) for all populations. This approach would remove the threefold FQPA safety factors for acute dietary, incidental oral, and inhalation exposures for children 6 and younger that were previously applied to permethrin,³ bifenthrin,⁴ cypermethrin⁵ and other pyrethroids. EWG disagrees with the EPA decision to remove the FQPA safety factor for pyrethroids and finds that this decision is inconsistent with the data on pyrethroid toxicity.

EWG reviewed the EPA's "Re-Evaluation of the FQPA Safety Factor for the Pyrethroids" and noted that the data described in the EPA report do not support the reduction of pharmacokinetic and pharmacodynamic factors to onefold. In fact, the EPA's own analysis of the data provided by pyrethroid pesticide manufacturers through the Council for the Advancement of Pyrethroid Human Risk Assessment program revealed that young animals show a greater sensitivity to pyrethroids than do adults. Similarly, recent peer-reviewed studies demonstrated that permethrin, one of the frequently used pyrethroids, affects learning and memory in laboratory animals.⁶ Pyrethroid bifenthrin induces developmental toxicity, immunotoxicity, and hormone dysregulation in laboratory studies.⁷

Overall, the available literature on pyrethroid toxicity does not support a reduction of the FQPA children's health safety factor to onefold. With this letter, EWG urges the EPA to protect children's health from these pesticides by applying a tenfold FQPA factor for pyrethroids.

Submitted on behalf of the Environmental Working Group,



Know your environment.
Protect your health.

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¹ Environmental Protection Agency. Re-Evaluation of the FQPA Safety Factor for the Pyrethroids: Updated Literature and CAPHRA Program Data Review. 2019. <https://www.regulations.gov/document?D=EPA-HQ-OPP-2008-0331-0084>

²² Dalsager L, Fage-Larsen B, Bilenberg N, Jensen TK, Nielsen F, Kyhl HB, Grandjean P, Andersen HR. Maternal urinary concentrations of pyrethroid and chlorpyrifos metabolites and attention deficit hyperactivity disorder (ADHD) symptoms in 2-4-year-old children from the Odense Child Cohort. *Environ Res.* 2019; 176:108533. doi: 10.1016/j.envres.2019.108533.

Furlong MA, Barr DB, Wolff MS, Engel SM. Prenatal exposure to pyrethroid pesticides and childhood behavior and executive functioning. *Neurotoxicology.* 2017; 62:231-238. doi: 10.1016/j.neuro.2017.08.005.

Viel JF, Rouget F, Warembourg C, Monfort C, Limon G, Cordier S, Chevrier C. Behavioural disorders in 6-year-old children and pyrethroid insecticide exposure: the PELAGIE mother-child cohort. *Occup Environ Med.* 2017 Mar;74(4):275-281. doi: 10.1136/oemed-2016-104035.

³ Environmental Protection Agency. Permethrin Human Health Draft Risk Assessment in Support of Registration Review. 2017. <https://www.regulations.gov/document?D=EPA-HQ-OPP-2011-0039-0088>

⁴ Environmental Protection Agency. Bifenthrin: Human Health Draft Risk Assessment for Registration Review, and Section 3 Risk Assessment. 2017. <https://www.regulations.gov/document?D=EPA-HQ-OPP-2010-0384-0247>

⁵ Environmental Protection Agency. Cypermethrin, Zeta-cypermethrin, and Alpha-cypermethrin. Draft Human Health Risk Assessment for Registration Review. MRID No's. 44685201 and 45111501. 2017. <https://www.regulations.gov/document?D=EPA-HQ-OPP-2012-0167-0116>

⁶ Saito H, Hara K, Tominaga T, Nakashima K, Tanemura K. Early-life exposure to low levels of permethrin exerts impairments in learning and memory with the effects on neuronal and glial population in adult male mice. *J Appl Toxicol.* 2019; 39(12):1651-1662. <https://doi.org/10.1002/jat.3882>

⁷ Park S, Lee JY, Park H, Song G, Lim W. Bifenthrin induces developmental immunotoxicity and vascular malformation during zebrafish embryogenesis. *Comp Biochem Physiol C Toxicol Pharmacol.* 2019; 228:108671. <https://doi.org/10.1016/j.cbpc.2019.108671>