

# CITIZEN'S GUIDE TO PROCELLACOR-EC

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PROCELLACOR-EC: Herbicide used in Vermont lakes and ponds to control Milfoil and other aquatic plants.

## Ingredients:

Florpyrauxifen-benzyl:	<b>2.7%</b>
Ethylhexanol:	2.19%
Methanol:	0.9%
<b>Unidentified ingredients</b>	<b>94.3%</b> <sup>1</sup>



## CAUTIONS:

1. Most of the ingredients are *not* identified!
2. VT Dept of Health did *not* evaluate the whole pesticide with all its ingredients. Nor did DOH evaluate the degradates of flopyrauxifen-benzyl. <sup>2</sup>
3. VT DOH appears to know what the 94.3% unidentified ingredients are and has determined they are of no danger, but cannot disclose them to the public<sup>3</sup> due to laws governing “confidential business information.” Any PFAS added as secret ingredients would pose a longterm hazard for animal and human health.
4. The European Union Food Safety Authority found *toluene* as a relevant impurity at 3 grams per kilogram. Toluene is a hormone-disrupting compound.<sup>4</sup>
5. One of the 4 break-down products of florpyrauxifen-benzyl is **hydroxyl acid**, which stays the longest in water. It takes **37.3 to 87.9 days for half** of this degradate to break down in the water. Plants decomposed from exposure to the herbicide may release this compound back into the water.<sup>5</sup>
6. Plant materials treated with ProcellaCor cannot be used as compost, as they are contaminated with persistent chemicals.<sup>6</sup>

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<sup>1</sup> ProcellaCor-EC. Specimen Label. 2018. [https://sepro.com/Documents/ProcellaCOR\\_EC--label.pdf](https://sepro.com/Documents/ProcellaCOR_EC--label.pdf)

<sup>2</sup> <https://lgpc.ny.gov/system/files/documents/2022/03/vermont-procellacor-review-2020.pdf>

<sup>3</sup> *ibid*

<sup>4</sup> European Food Safety Authority. Peer review of the pesticide risk assessment...pyrauxifen. 2018. <https://doi.org/10.2903/j.efsa.2018.5378>

<sup>5</sup> *ibid*

<sup>6</sup> State of Minnesota. <https://www.mda.state.mn.us/sites/default/files/inline-files>

7. Plants treated with ProcellaCor may become resistant to the herbicide, so it should not be used more than 2 years without adding a different type of herbicide.<sup>7</sup>

8. Florpyrauxifen is a fluorinated compound which has the potential to bioaccumulate in organisms. Florpyrauxifen benzyl has a bioconcentration factor of 5.5.<sup>8</sup> Bioaccumulation in bluegill sunfish, the only aquatic animal tested, was considered “moderate”. Bioaccumulation in humans has not been assessed.<sup>9</sup>

9. Long-term or sublethal effects of this herbicide on juvenile freshwater mussels (some endangered or threatened) have not yet been evaluated.<sup>10</sup> The endangered Spotted Salamander lives at Lake Iroquois and may be vulnerable to this herbicide, as the degradates remain longer in the water than the principal ingredient.

10. Florpyrauxifen is absorbed in blood, bladder, plasma, kidneys, and liver. More metabolites were seen in blood than parent compound, which entered the blood of mother and fetus. Endocrine disruption may be possible at very low amounts.<sup>11</sup>

11. Florpyrauxifen targets the auxin receptor in plants which are *biologically similar to microbe communities in our bodies*, essential for digestion, protection against viruses, and general body functioning. Auxins are produced by our microbiome. Their impact on human health is an emerging aspect of science. One plant auxin derived from tryptophan is chemically related to serotonin.<sup>12</sup> Endangering these bio-chemical relationships present an unwise risk for human and ecological health.

NOTE: EPA derived a reference dose of 300 mg/kg as an amount that does no observable harm. VT Dept. of Health based their evaluation on EPA's reference dose, without considering the total mixture, the degradates, or their effects on the microbiome of organisms including humans exposed to florpyrauxifen benzyl. The long-term effects of this new herbicide are unknown.

Vermonters must call on authorities to use non-toxic alternatives, even if they do not bring the desired effects. It is time to invoke the Precautionary Principle.

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<sup>7</sup> See note 1.

<sup>8</sup> Alexandrino, DM et al (2020). Revisiting pesticide pollution: the case of fluorinated pesticides. *Environmental Pollution*. <https://doi.org/10.1016/j.envpol.2021.118315>

<sup>9</sup> EPA. Office of Chemical Safety and Pollution Prevention. Memorandum. Florpyrauxifen-benzyl. 2017.

<sup>10</sup> Buczek, SB et al (2020). Evaluation of Juvenile Freshwater Mussel Sensitivity to Multiple Forms of Florpyrauxifen-benzyl. *Bull. Environ. Contam. Toxicol.* 105; 4; 588-594. DOI:10.1007/s00128-020-02971-1

<sup>11</sup> see note 4.

<sup>12</sup> Chanclud, E and B. Lacombe (2017). *Trends in Plant Science* 22; 9. <https://dx.doi.org/10.1016/j.tplants.2017.07.003>