PUBLIC EMPLOYEES FOR ENVIRONMENTAL RESPONSIBILITY
962 Wayne Ave • Suite 610 • Silver Spring, MD 20910

HB570: Pesticides – Mosquito Control Products and PFAS Chemicals

March 2, 2022

Kyla Bennett, PhD, JD, PEER Science Policy Director

FAVORABLE

Public Employees for Environmental Responsibility, or PEER, is a nonprofit organization dedicated to protecting our environment and civil servants who safeguard it.

We support HB570 to ban all uses of per-and polyfluoroalkyl substances (PFAS) from pesticide products used for mosquito control in Maryland. HB570 would ban all uses of PFAS, a large class of chemicals linked to cancer and other health impacts, from pesticide products used for mosquito control in Maryland. This action is necessary due to the number of pesticides that likely contain PFAS, and the difficulty pesticide applicators have in determining whether a particular pesticide has PFAS or not.

The discovery of PFAS in pesticides. PEER was the organization that first found PFAS in Anvil 10+10, a mosquito adulticide, in Massachusetts. Specifically, PEER found roughly 250 parts per trillion (ppt) of PFOA (perfluorooctanoic acid), and 260 – 500 ppt of HFPO-DA (hexafluoropropylene oxide dimer acid, a "GenX" replacement for PFOA). PEER uses Eurofins Lancaster Laboratories, an accredited lab well-versed in the U.S. Environmental Protection Agency's (EPA) PFAS testing methods. We alerted Massachusetts Department of Environmental Protection (MassDEP), who alerted EPA. Both MassDEP and EPA did their own testing of Anvil 10+10, and they also found several PFAS in the pesticide. EPA ultimately concluded that the PFAS we found in Anvil 10+10 was the result of contamination from fluorinated HDPE containers that the pesticide was transported/stored in.[1] While the PFAS contamination of Anvil may indeed be from the barrels, PEER and MassDEP have found a variety of different targeted PFAS in different pesticides, and it is unclear why it is in others.

PFAS in other pesticides. PEER also found PFAS in two pet products, two herbicides, and in some other mosquito products. PEER and the Maryland Pesticide Education Network (MPEN) found PFAS in Permanone 30-30, used by Maryland for the state's annual mosquito control program. Specifically, we found 3,500 parts per trillion (ppt) PFOA, and approximately 630 ppt of HFPO-DA. When we tested Permanone, we used the gold standard of tests available at the time. Since that time, EPA developed a draft PFAs test for oily matrices like pesticides. When EPA initially tested Permanone for PFAs, they also found PFAS in three samples. When

[1] https://www.epa.gov/pesticides/pfas-packaging

they ran the test again using their draft oily matrix test, they did not find any PFAS. It is unclear whether: 1) the draft oily matrix test is adequate to find PFAs in pesticides; and 2) whether Permanone was contaminated with PFAS from the same fluorinated barrels as Anvil, and the newer tests were taken from non-fluorinated containers. Regardless, it is clear that Anvil 10+10 is not an anomaly.

PFAS are on EPA's list of acceptable inerts for pesticides. Pesticides contain one or more active ingredients, and often have "inert" ingredients as well. These inerts can help pesticides disperse, improve the ease of application, increase shelf-life, or protect the pesticide from degrading under ultraviolet light. Inert ingredients are *not* necessarily non-toxic. Moreover, federal law states that the identity of inert ingredients is confidential business information (CBI), and therefore they do not have to be identified by name or percentage on product labels. Currently, EPA has more than a dozen PFAS on its list of inert ingredients for pesticides.[2] A screenshot of these approved inerts can be seen in Figure 1.

Figure 1

CAS Reg. No.	Ingredient
131324-06-6	Poly(difluoromethylene), alpha-chloro-omega-(1-chloro-1-fluoroethyl)-
1320-37-2	Dichlorotetrafluoroethane
163440-89-9	Poly(difluoromethylene), alpha-(2,2-dichloro-2-fluoroethyl)-omega-hydro-
188027-78-3	5H-1,3-Dioxolo[4,5-f]benzimidazole, 6-chloro-5-[(3,5-dimethyl-4-isoxazolyl)sulfonyl]-2,2-difluoro
24937-79-9	Ethene, 1,1-difluoro-, homopolymer
25067-11-2	Hexafluoropropene, polymer with tetrafluoroethylene
2837-89-0	2-Chloro-1,1,1,2-tetrafluoroethane (For use in sterilant mixture with ethylene oxide only)
65530-66-7	Poly(difluoromethylene), .alpha.-fluoro-.omega.-[2-[(2-methyl-1-oxo-2- propenyl)oxy]ethyl]- (9C
65530-85-0	alpha-(Cyclohexylmethyl)-omega-hydropoly(difluorom ethylene)
65545-80-4	Poly(oxy-1,2-ethanediyl), alpha-hydro-omega-hydroxy-, ether with alpha-fluoro-omega-(2-hydroxyethyl)poly(difluoromethylene) (1:1)

CAS Reg. No.	Ingredient
354-33-6	Ethane,1,1,1,2,2-pentafluoro-
42557-13-1	Poly(oxy(methyl(3,3,3-trifluoropropyl)silylene)), alpha-(trimethylsilyl)-omega((trimethylsilyl)oxy)-
431-89-0	Propane, 1,1,1,2,3,3,3-Heptafluoro-
593-70-4	Fluorochloromethane
63148-56-1	Siloxanes and silicones, Me 3,3,3-trifluoropropyl
67786-14-5	2-Naphthalenesulfonic acid, 6-amino-4-hydroxy-5-{{2-(trifluoromethyl)phenyl}azo}-, monosodium s
79070-11-4	Poly(difluoromethylene), .alpha.-chloro-.omega.-(2,2-dichloro-1,1,2-trifluoroethyl)- (CA
88795-12-4	1-Butanol, 4-(ethenyloxy)-, polymer with chlorotrifluoroethene, (ethenyloxy)cyclohexane and ethoxyethene
-	Montmorillonite-type clay treated with polytetrafluoroethylene

Note that while not all of these are considered PFAS under EPA's "working definition," many of them are. Therefore, a manufacturer may be using PFAS in their pesticide, and no one except the manufacturer will know.

[2] https://ordspub.epa.gov/ords/pesticides/f?p=INERTFINDER:1:0::NO:1::

PFAS as active ingredients in pesticides. PFAS have historically been used as active ingredients in pesticides. While many of these pesticides have been banned in the United States, there are some that are still on the market.[3]

Conclusion. Given the dangers associated with PFAS, together with the ubiquity of their uses in pesticides, it is critical that Maryland ban the use of PFAS in mosquito pesticides in the state. CBI makes it impossible for applicators and regulatory agencies to know precisely what is in the pesticides they are using. By putting the onus on the manufacturers to demonstrate that PFAS are not in pesticides – whether from contamination, as inert ingredients, or as active ingredients – Maryland can protect both human health and the environment from the devastating and expensive impacts of PFAS contamination.

Thanks you.

Kyla Bennett, PhD, JD
Science Policy Director, PEER

[3] These include – depending on how PFAS are defined - hexaflumuron, metofluthrin, novaluron, noviflumuron, pyrifluquinazon, tefluthrin, and tetraconazole.