



Testimony: HB 1190: Pesticides - PFAS Chemicals - Prohibitions
Submitted to: [House Health and Government Operations Committee](#)
Submitted by: Diana Eignor, MS, Science Director for the Maryland Pesticide Education Network
Position: In Support

March 13, 2024

Dear Chair Pena-Melnyk, Vice Chair Cullison, and Members of the Committee:

Thank you for this opportunity to submit testimony in support of **HB 1190: Pesticides - PFAS Chemicals – Prohibitions** on behalf of the Maryland Pesticide Education Network. **My name is Diana Eignor. I am a biologist, toxicologist, and retired EPA scientist and the Maryland Pesticide Education Network’s science director.**

The proposed bill HB 1190: Pesticides - PFAS Chemicals - Prohibitions ensures that pesticides containing PFAS as their active ingredient are no longer sold or used in the state of Maryland. There are three key points regarding the proposed bill HB 1190 and its implementation in Maryland that I want to address as a scientist.

- **Defining PFAS.** The Maryland definition of PFAS found in Maryland state law is a chemical with “**one fully fluorinated carbon atom**”. This definition is also used by 22 states, Congress, and the U.S. Military.
- **How long do PFAS chemicals last ?** A half life of a pesticide is the time it takes for a pesticide to be reduced by only one-half. When a PFAS pesticide breaks down and degrades into yet another chemical, the PFAS element doesn't disappear because it contains the element fluorine which does not break down but remain in the system. Therefore, there is a concern about PFAS persistence.
- **Breakdown products and metabolism** Breakdown products may be even more toxic than the original chemical and have longer half lives. Once PFAS is ingested or drank, it can persist in the body by binding to liver and serum proteins.

How are PFAS defined?

- The EPA’s CompTox Chemicals Dashboard database identifies 14,000 PFAS chemicals using the same broad scientific definition used in Maryland state law and by 22 states, Congress, and the U.S. Military. It is very similar to the definition of the Organization for



Economic Cooperation & Development (OECD) of which the US is a member of and adopted by the European Union in their pending regulation of PFAS.

- The Maryland definition of PFAS found in state law is a chemical with **“one fully fluorinated carbon atom”**. In Maryland, the known PFAS pesticides include one or more of 66 active PFAS ingredients. Maryland allows 1,091 products that contain active PFAS ingredients to be sold/used in our state.
- Certain industry groups want to change the established definition of PFAS chemicals and some do not want to include polymers or gases in the definition. Polymeric PFAS are fluoropolymers that many industries consider as being “polymers of low concern”, although there is already a considerable environmental burden and widespread contamination resulting from their production, manufacturing, and use.
- The definition of PFAS has serious implications for legislation, regulation, litigation, monitoring, research, and impacted communities. A non-comprehensive and inaccurate definition of PFAS only shields some of the most widely used “forever” pesticides but does not protect Marylander’s health and environment. We can’t redefine ourselves away from toxics.

How long do PFAS chemicals last? As you know, PFAS are persistent.

- A pesticide’s half life does not tell the whole story. A pesticide half-life is the time it takes for a certain amount of a pesticide to be reduced by one-half. This means it is still having a significant impact as it continues to degrade- - even very low parts per trillion (ppt) of PFAS are of concern. There are different half lives depending on media. There are half lives in water, soil, plants, sediment, etc.
- Many things play a role in how long a pesticide remains in the environment. These include things like sunlight, temperature, the presence of oxygen, soil type (sand, clay, etc.), how acidic the soil or water is, and microbe activity.
- Since PFAS pesticides include the chemical element fluorine, the fluorine does not disappear since it is an element and remains in the system (water, blood, etc).



Break down products (degradates) and metabolism

- As a PFAS pesticide breaks down, it can form break down products (degradates) that may be more toxic than the original chemical and have longer half lives.
- An example is fipronil which is the second most used PFAS pesticide in Maryland based on weight. Fipronil has a half life of 41 days in water. However, some of the degradates of fipronil are more stable and up to 4 times more toxic. The degradates can further break down into new compounds that can maintain the carbon-fluorine bond and PFAS structure.
- Exposure to PFAS in organisms can occur through eating and drinking contaminated food and water. Once absorbed PFAS do not appear to undergo metabolism in the liver or other tissues. PFAS can persist in the body by binding to proteins in the liver and blood serum.

Maryland residents deserve to see change and implementation when it comes to PFAS in their environment. Maryland residents deserve to see action to remove PFAS pesticides being added to the environment in our state. I urge you to please pass HB 1190.

Sincerely,
Diana M. Eignor, MS