



Senate Education, Energy, and the Environment Committee
Senate Bill 345 – *Pesticides – PFAS Chemicals – Prohibitions*
POSTION: SUPPORT

The Maryland Chapter of the American Academy of Pediatrics (MDAAP) is a statewide association representing more than 1,100 pediatricians and allied pediatric and adolescent healthcare practitioners in the State and is a strong and established advocate promoting the health and safety of all the children we serve. On behalf of MDAAP, we submit this letter of support for Senate Bill 345.

Perfluoro- and Polyfluoro- Alkyl Substances (PFAS) are man-made fluorinated compounds known as “forever chemicals” because they do not break down, becoming persistent environmental contaminants in soil and water. **Over 1,000 of the 14,000 pesticide products registered for use in Maryland contain one of 66 PFAS pesticides as their active ingredient.**

- Children are uniquely susceptible to the toxic effects of chemicals. Substances that interfere with growth and brain development can have life-long impacts.
- Ingestion of food and water contaminated with PFAS and inhalation of sprayed PFAS or PFAS-contaminated dust are the most common routes of exposure. This includes ingestion of food crops treated with PFAS-containing pesticides and inhalation of sprayed pesticides. Skin absorption of PFAS has also been reported.
- Adverse health effects from PFAS pesticides include cancers, birth defects, immune suppression, thyroid disease, endocrine disruption, kidney and liver toxicity, and neurotoxicity. These toxic effects would be in addition to those from the thousands of other PFAS compounds to which children are exposed.
- Ongoing use of PFAS-based pesticides increases children’s exposure to these toxins, leading to substantial lifetime burden and increased risk of adverse effects.

PFAS have been widely detected in human blood samples and **most commonly enter the body by ingestion of contaminated food or water, or through inhalation of sprayed PFAS and dust particles contaminated with PFAS.** Once present, they are poorly excreted and persist in the human body, with half-lives often measured in years to decades. Some of these chemicals have also been found to bioaccumulate within tissues in the body. With this environmental and circulatory persistence, **the potential for lifetime exposure and accumulation of PFAS is substantial, especially in children,** who would have higher levels of exposure relative to their weight over a longer span of years. PFAS pesticides cannot currently be measured in human blood, but their widespread use in agriculture and for community pest control makes exposures highly likely.

Children and fetuses are uniquely susceptible to the effects of toxic chemicals, **a vulnerability to minimal amounts that contradicts the commonly held misconception that it is the dose that determines the toxicity of a particular substance.** PFAS can cross the placenta and enter the fetal circulation, and the amount to which the fetus is exposed relative to weight is far greater than that of the mother. An 8-week fetus weighing approximately 5 grams, and whose brain and organs are forming and developing, receives a much larger dose than the adult mother in their shared circulation. **Toxic exposures during this time of brain and organ**

formation can have long-lasting impacts on an unborn child, interfering with normal neurologic development.

Infants and young children also have higher levels of exposure to toxic substances in their environment. They eat and drink more relative to their body weight than adults, they breathe more rapidly, and their frequent hand-to-mouth behaviors increase inadvertent non-food ingestions, such as from outdoor soil or contaminated house dust. It is easy to imagine the risk of ingestion for a child playing outdoors on or near a recently treated field, yard, or playground.

Animal studies and *in vitro* human cell studies have identified the following adverse health effects from PFAS pesticides, including ones currently approved for use in Maryland:

- **Teratogenicity (harm to fetal growth, anatomy, and development): Bifenthrin, Fipronil, Fludioxonil, Fluvalinate, Oxyfluorfen, Trifluralin**
- **Immunotoxicity: Bifenthrin, Fipronil, Flonicamide**
- **Endocrine disruption: Fludioxonil, Fluvalinate, Fipronil**
- **Carcinogenicity: Trifluralin, Fluopyram, Fipronil, Prodiamine, Thiazopyr**
- **Kidney and liver toxicity: Fluazifop-*p*-butyl**
- **Neurotoxicity: Bifenthrin, Bromethalin**
- **Thyroid toxicity: Fipronil, Thiazopyr**

(This is not a complete list but represents a sampling of studies involving fluorinated PFAS pesticides. It is important to note that these toxicities are among those associated with non-pesticide PFAS in human population studies).

Opponents of this bill may claim economic hardship should these products be banned, despite the availability of alternative non-PFAS pesticides approved in Maryland that could be used in their place. This perspective also fails to consider the costs of continued contamination of the environment, food and water supplies, and the subsequent impacts on human health and increased costs of medical care. Costs for cleanup and remediation will fall to state and local governments, as well as taxpayers; health care costs will be borne by patients, providers, and health insurers. These substantial costs can't be ignored in evaluating the economic impact of this bill.

We live in a world that has been inundated with PFAS chemicals for decades. Nearly everyone has these chemicals in their circulation. I had my own blood tested last year and had eight of 42 tested PFAS present. These included two that are no longer being produced by manufacturers: PFOA, stopped in 2015 and PFOS, in 2002, a testament to the environmental persistence of these chemicals. Two others, still being produced, fell in the top 5% of the US population. Groundwater and community water supplies across the state have been found to be contaminated with PFAS in testing conducted by MDE. Wells in Harford County, including some supplying schools, in Cecil County, and on the lower Eastern Shore have also recently been found to be contaminated with PFAS. In 2021, the Maryland legislature banned PFAS in food packaging, in fire-fighting foam and equipment, and in rugs and carpets. By eliminating the use of PFAS pesticides on food grown in Maryland and in the communities where your constituents live, work, play, and attend school, the legislature can take another important step in protecting Marylanders of all ages from additional and preventable PFAS contamination. Maryland AAP requests a favorable report on Senate Bill 345.

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