



**Committee:** Environment and Transportation  
**Testimony on:** HB1147 - Environment - Playground Surfacing Materials - Prohibitions  
**Organization:** Maryland Legislative Coalition Climate Justice Wing  
**Submitting:** Laurie McGilvray, Co-Chair  
**Position:** Favorable  
**Hearing Date:** February 28, 2024

Dear Chair and Committee Members:

Thank you for allowing our testimony today in support of HB1147. The Maryland Legislative Coalition Climate Justice Wing, a statewide coalition of nearly 30 grassroots and professional organizations, urges you to vote favorably on HB1147 to establish limits on three dangerous chemicals in playground materials: Lead, PAHs and PFAS.

This bill creates a set of measurable standards for safer playgrounds for our most vulnerable community members - children. Importantly, the obligation for showing compliance with these protective standards rests with the parties best situated to formulate the materials to be used, namely the producers and suppliers.

There is no statewide inventory of Maryland's playgrounds that documents their surface materials. Playgrounds may have surfaces covered in natural and/or synthetic materials, which are now required to be [ADA-compliant surfaces](#), and include natural-surface materials like [engineered wood fiber](#) (EWF) and synthetic [poured-in-place](#) (PIP) surfaces. Playgrounds may also have loose fill material such as shredded mulch or loose tire 'chunks' or 'shreds.' The increasing use of PIP and other forms of tires is concerning. [Years of research](#) confirm that tires contain alarming levels of **carcinogens, heavy metals and endocrine disruptors**, as well as contribute to **microplastic contamination** of air, soil and water.

**HB1147 regulates playgrounds to protect children from toxic exposure:**

Children, and especially younger children, are uniquely vulnerable to the health effects of toxic environmental exposures, which can occur through ingestion, inhalation, or dermal uptake. This vulnerability is due in part to their close interaction with playground surfaces, the developmentally-appropriate tendency to put their hands or objects in their mouths, their rapidly developing organ systems, and their immature detoxification mechanisms. Children also [breathe faster](#) per pound of body weight increasing the likelihood of inhalation exposure.

## **Materials with high levels of lead, PAHs and/or PFAS are unacceptable for use on playgrounds:**

It is important to note that while the three chemicals covered by this bill can be measured separately, a child's exposure is cumulative, and synergistic.

### **1. Lead**

Of the three chemicals addressed in HB1147, lead is the most studied. According to the [Centers for Disease Control and Prevention](#) and the [World Health Organization](#), there is no known safe level of lead exposure. Relatively low levels of lead exposure that were previously considered 'safe' have been shown to damage children's health and impair their cognitive development. The [effects of this neurotoxicant](#) are well documented and include:

- Developmental delay and learning difficulties
- Weight loss, sluggishness and fatigue
- Abdominal pain, vomiting, constipation
- Hearing loss, seizures, unconsciousness.

At high levels [lead poisoning can be fatal](#). Even at very low levels of exposure, lead can cause damage over time. As observed across the medical field, the only [solution to lead poisoning is prevention](#). HB1147 moves us significantly toward that goal.

Many children visit playgrounds several times a week or even daily from a very early age, and in elementary school, frequent exposure occurs during recess and at before- and after-school activities. In the DMV area, local jurisdictions have struggled for at least five years with community-led finding of high lead levels in local playgrounds and schools, including in [Montgomery County](#), [Prince George's County](#), and [Washington, D.C.](#)

### **2. Polycyclic Aromatic Hydrocarbons – PAHs**

[Polycyclic aromatic hydrocarbons](#) (PAHs) are a class of [over 100 chemicals](#) that occur naturally in coal, crude oil, and gasoline. They result from burning, especially the incomplete burning, of coal, oil, gas, wood, garbage, and tobacco. According to a peer-reviewed, published study,

“Noticeably, [cancer risk is approximately 10 times higher](#) in poured rubber surfaced playgrounds than in uncovered soil playgrounds.” The authors also write that “skin is the primary site of direct contact with PAH derivatives” while noting that the [“carcinogenic abilities of the derivatives are usually 10 to 1,000-fold higher](#) than that of parent PAHs.”

PAHs are recognized as a [“widespread environmental carcinogen”](#) and PAHs in ambient air are associated with [increased cancer incidence](#) in exposed populations. “Positive associations have been reported between ambient PAHs and [breast cancer, childhood cancers and lung cancer](#). Epidemiological studies have shown that PAHs are associated with reduced lung function, exacerbation of asthma, and increased rates of obstructive lung diseases and cardiovascular

diseases. Limited epidemiological evidence also suggests adverse effects on cognitive or behavioral function in children.” The European Union has enacted [strict limits on PAH exposure](#), including specifically rubber granules and mulches used as infill on artificial sports pitches and [playgrounds](#).

Over a decade ago, a [peer-reviewed, published study](#) of rubber recycled tire playgrounds and pavers confirmed “the presence of a large number of hazardous substances including PAHs, phthalates, antioxidants (e.g. BHT, phenols), benzothiazole and derivatives,” citing the “high content of toxic chemicals.” “The analysis of commercial pavers (recycled rubber tire tiles) showed unexpected results with extremely high PAH levels [...] All the 16 priority PAHs were found in all the samples...” The study concludes that given “the presence of a high number of harmful compounds, frequently at high or extremely high levels, in these recycled rubber materials [they] should be carefully controlled, and their final use should be [restricted or even prohibited in some cases](#).”

### 3. Per- and Polyfluoroalkyl Substances - PFAS

PFAS refers to a class of 12,000 or more chemicals known to provide heat, stain and water resistance. Because their strong carbon-fluorine bond is difficult to break down, they are referred to as “forever chemicals.” PFAS has been linked to a wide range of health problems in animal and human studies including [kidney and testicular cancer](#), [hormone and endocrine disruption](#), [liver and thyroid problems](#), [reduced vaccine effectiveness](#), reproductive harm and abnormal fetal development. As the science has evolved, the EPA-issued health advisories reflect findings that PFAS is more toxic at lower levels than scientists previously knew. While there is little evidence to date of PFAS linked specifically to tires, there certainly are questions. No less than the NFL Players Association medical director [called on manufacturers to disclose](#) if there is PFAS present in the plastic carpet *or infill material* (i.e., pulverized tires). In 2023, over [270 PFAS-related bills](#) were introduced in state legislatures. And the questions continue to mount.

[More recently](#), tires were identified as the source of [95% mortality](#) among endangered coho salmon due to an additive, [6PPD](#), found in all tires. While 6PPD is not addressed in HB1147, it adds to the weight of concerns created by exposing children to these surfaces. A 2022 study found 6PPD in urine samples from adults, children and pregnant women. The authors wrote, “Considering that 6PPD-Q was a lethal toxicant to multiple aquatic species, the potential human health risks posed by its long-term exposure [require urgent attention](#).”

### Conclusion

Maryland needs HB1147 because the scientific evidence of the toxic load of many playgrounds, especially tire-based playgrounds, has only grown. As the national leaders in epidemiology and pediatrics of the Icahn School of Medicine at Mount Sinai concluded, “**given the hazards associated with recycled tire rubber, it is our recommendation that [these products never be used](#) as surfaces where children play.**” This bill is an important step in setting safety standards on materials commonly used across our state. By enacting HB1147, Maryland can secure safer playgrounds, healthier children, and a healthier environment. For all of these reasons, we strongly support HB1147 and urge a **FAVORABLE** report in Committee.

350MoCo

Adat Shalom Climate Action

Cedar Lane Unitarian Universalist Church Environmental Justice Ministry

Chesapeake Earth Holders

Chesapeake Physicians for Social Responsibility

Climate Parents of Prince George's

Climate Reality Project

ClimateXChange – Rebuild Maryland Coalition

Coming Clean Network, Union of Concerned Scientists

DoTheMostGood Montgomery County

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Fix Maryland Rail

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Takoma Park Mobilization Environment Committee

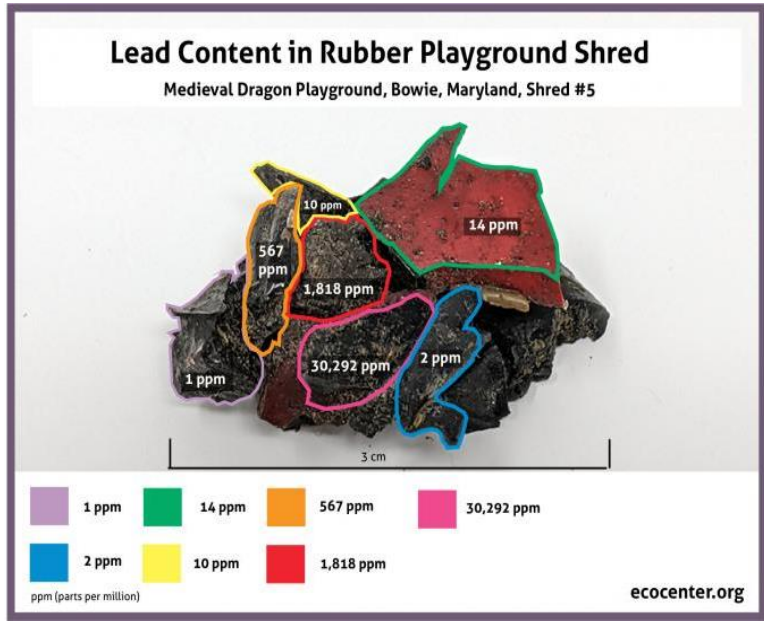
The Climate Mobilization MoCo Chapter

Unitarian Universalist Legislative Ministry of Maryland

WISE



<https://thewash.org/2019/11/06/slow-city-response-to-dangerous-playground-conditions/>



<https://www.ecocenter.org/new-study-lead-crumb-rubber-playgrounds-maryland-and-virginia>

