



HB1147: Environment - Playground Surfacing Materials - Prohibitions
House Environment and Transportation Committee
February 28, 2024
Position: FAVORABLE

Submitted by: Diana Conway, President
Safe Healthy Playing Fields Inc.

Good afternoon Chair Korman, Vice Chair Boyce and honorable members of the committee,

Thank you for this opportunity to testify in support of HB1147. This bill will set important limits on three dangerous, toxic chemicals –**lead, PFAS and PAHs**– for the thousands of playgrounds across Maryland.

This testimony is submitted on behalf of Safe Healthy Playing Fields Inc. SHPFI is a national, all-volunteer 501-c-3 non-profit. Our mission is to educate communities and their policy makers on the multiple harms created by plastic synthetic turf fields and synthetic playgrounds, and to provide resources on the many benefits of natural grass fields and natural-surface playgrounds.

SHPFI urges this committee to support HB1147. This bill will protect our most vulnerable community members: children, including the very youngest children who have the longest life-span of additional exposures ahead of them.

The majority of synthetic playgrounds include PIP surfaces, typically made of waste tires. As stated by a leading member of the [federal Pediatric Environmental Health Specialty Unit \(PEHSU\)](#),

“given the hazards associated with recycled tire rubber, it is our recommendation that [these products never be used](#) as surfaces where children play.”

Mt. Sinai is one of only ten recognized centers in the US focused on children and environmental exposure.

The increasing use of PIP and loose-tire surfaces is concerning. [Years of research](#) confirm that tires contain alarming levels of **carcinogens, heavy metals** and **endocrine disruptors**, as well as

contributing to **microplastic contamination** of air, soil and water. There is no statewide inventory of Maryland's playgrounds or their surfaces.

Importantly, there are [ADA-compliant natural surfaces](#) like [engineered wood fiber](#) (EWF) that [provide fall-impact attenuation](#), avoid the shocking heat of tire playgrounds, and do not front-load our children with the toxic load presented by tire-based, synthetic surfaces like [poured-in-place](#) (PIP).

Routes of exposure to toxicity of playground surfaces

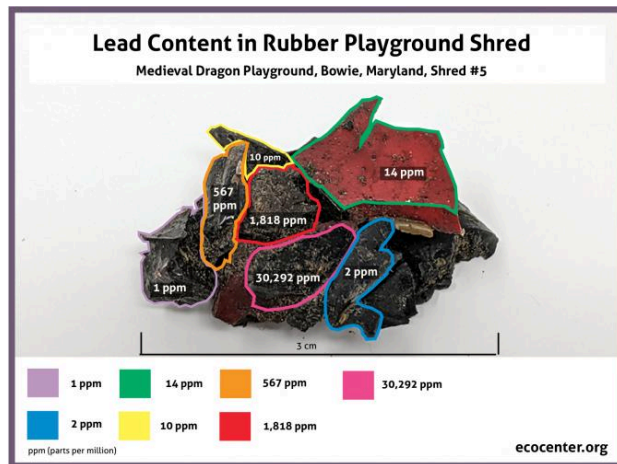
Children, and especially younger children, are uniquely vulnerable to the health effects of toxic environmental exposures. Their close physical contact with the surface increases the risk of ingestion, inhalation or dermal uptake. Young children have a developmentally appropriate tendency to put their hands or objects in their mouths. Children also have rapidly developing organ systems, and immature detoxification mechanisms. Children also [breathe faster](#) per pound of body weight increasing the likelihood of inhalation exposure.

Lead, PAHs and/or PFAS do not belong on playgrounds:

These chemicals are well understood to be highly toxic individually. In combination, their impact is certainly **cumulative**, and predicted to be **synergistic**— meaning the sum is greater than the parts. Children visit playgrounds several times a week or even daily from a very early age, continuing on through elementary school exposure during recess and at before- and after-school activities.

Lead:

The US [Centers for Disease Control and Prevention](#) and the [World Health Organization](#) confirm there is **no safe level of lead exposure**. The [effects of this neurotoxicant](#) are well documented and include developmental delay, hearing loss, seizures, unconsciousness, and at very high levels [lead poisoning can be fatal](#). The only [solution to lead poisoning is prevention](#). HB1147 moves us significantly toward that goal. This will specifically address concerns of high lead reports in playgrounds and schools around [Montgomery County](#), [Prince George's County](#), and [Washington, D.C.](#)



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

Polycyclic Aromatic Hydrocarbons - PAHs:

[Polycyclic aromatic hydrocarbons](#) are widely recognized to be carcinogens. 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

A [peer-reviewed, published study](#) over a decade ago 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...”

It concludes:

“[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.](#)**”

Per- and Polyfluoroalkyl Substances - PFAS:

PFAS are linked to, among others, kidney and testicular cancer, hormone and endocrine disruption, liver and thyroid problems, reduced vaccine effectiveness, reproductive harm and abnormal fetal development. The likelihood of EPA action on PFAS levels in drinking water is a warning shot for jurisdictions to reduce their PFAS contamination sources or face *even greater* costs for PFAS removal processes. At the state level, more than [270 PFAS-related bills](#) were introduced in state legislatures in 2023..

Additional toxic element in tires:

** [More recently](#), tires were identified as the source of [95% mortality](#) among endangered coho salmon due to an additive, [6PPD](#), found in all tires. Removing tire-based toxicity from playgrounds will also remove exposure of children to 6PPD, and the runoff that would carry it to Maryland’s streams and drinking water. As reported in 2022, the presence of 6PPD in urine samples from adults, children and pregnant women led the authors to write: “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

Toxic playgrounds need to go. In a world of rising exposure, playgrounds should be a safe space for our children, and so toxic playgrounds need to go. HB1147 is a vital step toward safety standards for commonly-used materials, and will help direct public and private schools and parks to smarter, safer materials for healthier children, and a healthier environment.

On behalf of our Maryland network and our national colleagues, SHPFI respectfully urges a favorable report for HB1147.

Thank you for considering our views.
Diana Conway, President
Safe Healthy Playing Fields Inc.
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[Poolesville MD tire playground fire, 2022](#)



