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Attached please find Extruded Polystyrene Foam Association (XPSA) and EPS-Industry Alliance (EPS-IA) Comments on Draft Identification of Priority Products Report to the Legislature: Safer Products for Washington Cycle 2.

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Submitted Electronically via Department of Ecology Public Comment Form

Extruded Polystyrene Foam Association (XPSA) and EPS-Industry Alliance (EPS-IA) Comments on Draft Identification of Priority Products Report to the Legislature: Safer Products for Washington Cycle 2

XPSA and EPS-IA appreciate the opportunity to submit comments on the Washington State Department of Ecology Draft Identification of Priority Products Report to the Legislature: Safer Products for Washington, Cycle 2 (the Draft Report). In providing these comments XPSA and EPS-IA support and amplify the comments filed separately by the North American Modern Building Alliance (NAMBA) of the American Chemistry Council.

XPSA is a trade association representing manufacturers of extruded polystyrene foam (XPS) insulation products and the industry's raw material suppliers. XPSA members collectively manufacture more than 95% of all XPS insulation destined for use in the North American market. XPS insulation is a premier choice for building planners because it is highly energy efficient, resulting in significant savings in energy use—and in energy costs. XPSA promotes the benefits that accrue to society from appropriate use of XPS insulation applications.[1]

The EPS-IA is the North American trade association for the expanded polystyrene (EPS) industry. Our members manufacture EPS foam insulation used in building and construction and EPS protective packaging for consumer goods including appliances, electronics, pharmaceuticals, furniture, and other products. EPS is a versatile, lightweight material — 98 percent air —that supports a diverse range of industries and significant sectors of our national economy.[2]

Regarding the Draft Report, XPSA and EPS-IA urge the Department of Ecology to exclude polystyrene (PS) foam insulation products made with the polymeric flame

[1] For more information on XPSA, please see our website at https://xpsa.com
[2] For more information on EPS-IA, please see our website at https://www.epsindustry.org/

retardant (PolyFR) from the list of priority building and construction products identified in the Draft Report. This request is based on the following data:

1) Polystyrene foam insulation products are already manufactured with a safer organohalogen flame retardant (OFR), namely PolyFR.[3] The U.S. EPA identified PolyFR as a Safer Choice alternative to HBCD, the OFR then currently in use in PS foam insulation. The stated purpose of the EPA Safer Choice program is "to minimize the likelihood of unintended consequences, which can result from a precautionary switch away from a chemical of concern without fully understanding the profile of potential alternatives, and to enable a course of action based on the best information - on the environment and human health - that is available or can be estimated".[4]

2) Foam insulation products made with PolyFR do not meet the legislative criteria for identification as a priority product because:
A) There is no evidence of human or environmental exposure to PolyFR despite its widespread use in polystyrene (PS) foam insulation since 2016.[5]

B) The one study cited in the Cycle 1 report[6] that mentions PolyFR (Minet et al. 2021[7]) notes the possibility of exposure to PS foam insulation dust during installation and demolition. However, the paper provides no data on exposure to PolyFR. No other citation that mentions PolyFR was found in the report.

C) The available scientific information indicate PolyFR has very low toxicity and environmental impact.[8]
(i) Regarding PolyFR, the EPA Flame Retardant Alternatives for Hexabromocyclododecane (HBCD) report[9] concluded: "The hazard profile of the butadiene styrene brominated copolymer shows that this chemical is anticipated to be safer than HBCD. Due its large size, lack of low molecular weight (MW) components, and un-reactive functional groups, human health and ecotoxicity hazard for this copolymer are measured or predicted to be low".

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[3] United States Environmental Protection Agency (2014). EPA Publication 740R14001: Flame Retardant Alternatives for Hexabromocyclododecane (HBCD). https://www.epa.gov/sites/production/ files/2014-06/documents/hbcd_report.pdf.
[4] United States Environmental Protection Agency (2014). EPA's Safer Choice Standard. https://www.epa.gov/sites/production/files/ 2013-12/documents/standard-for-safer-products.pdf.
[5] PolyFR US aggregated production volume exceeds 1 million pounds per year. EPA Chemical Data Reporting, available at: https://pubchem.ncbi.nlm.nih.gov/compound/Benzene_-ethenyl-_-polymer-with-1_3-butadiene_-brominated#section=U-S-Production&fullscreen=true.
[6] Regulatory Determinations Report tot the Legislature, safer Products for Washington Cycle 1 Implementation Phase 3, Publication 22-04-018, Washington State Department of Ecology, June 2022.
[7] Minet, L. et al. 2021. High Production, Low Information: We Need to Know More About Polymeric Flame Retardants, *Environ. Sci. Technol*. 55:3467-9.
[8] S.B. Hunter and J.C. O'Connor. 2021 Comment on "High Production, Low Information: We Need To Know More About Polymeric Flame Retardants" Environ. Sci. Technol. 55: 10888-9.
[9] United States Environmental Protection Agency (2014). EPA Publication 740R14001: Flame Retardant Alternatives for Hexabromocyclododecane (HBCD). https://www.epa.gov/sites/production/ files/2014-06/documents/hbcd_report.pdf.

(ii) As noted by Beach et al. (2017) "The higher molecular weight of the polymeric FR prevents migration once embedded (blended) in a plastic resin/blend. In addition, the size of the coiled form for the polymeric FR is of the order of 20-50 times the size of small molecule alternatives such as HBCD, thus hindering its ability to penetrate through biological membranes, which significantly reduces the bioaccumulation and toxicity potential."

(iii) Regarding the degradation behavior of PolyFR PS foam, Beach et al. (2021) found that under application-relevant conditions, no significant breakdown products were observed at high enough concentrations to warrant further toxicological testing, as anticipated exposure to any breakdown products is very low for humans and/or wildlife species.

(iv) Koch and Sures (2019) reviewed degradation studies on PolyFR under non-application-relevant conditions. Empirical aquatic toxicity data indicated low toxicity to aquatic organisms. The study concluded that "as long as polymeric flame retardants are only used in building insulation, the actual risk seems to be rather limited".

3) XPSA members and EPS-IA are members of NAMBA and fully support the comments provided by NAMBA, summarized below because of their direct relevance to the use of PolyFR in XPS insulation:

OFR are an important component of insulation materials including XPS. OFR provide flame retardancy to insulation materials, enable insulation materials to meet U.S. and state building code performance criteria for flame and smoke spread and International Code Council building envelope requirements for "fire and structural safety, moisture control, long-term durability, energy efficiency and cost-effective construction/installation."

Plastic insulation such as XPS provides notable environmental benefits including energy efficiency, reduction of greenhouse gas emissions, durability and longevity, and moisture management.

The scope of the OFR listing lacks scientific rationale. Not all OFRs are the same and grouping all chemicals classified as OFRs together is not suitable for determining regulatory action. This point is well illustrated by the data provided above comparing the polymeric FR (PolyFR) with the monomeric FR, HBCD.

In conclusion, **XPSA and EPS-IA urges the Department of Ecology to exclude polystyrene (PS) foam insulation products made with the polymeric flame retardant (PolyFR) from the list of priority building and construction products identified in the Draft Report.**

Thank you for the opportunity to submit these comments. If you have any questions, please contact John Heinze at XPSA or Walter Reiter at EPS-IA.

Sincerely,

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Sincerely,

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