



North American Flame
Retardant Alliance

August 31, 2022

Washington Department of Ecology
300 Desmond Drive SE
Lacey, Washington 98503

Re: Preliminary Draft Rule Language: Safer Products for Washington

To Whom It May Concern:

The American Chemistry Council's (ACC) North American Flame Retardant Alliance ("NAFRA")¹ submits the following supplemental comments regarding Washington Department of Ecology's ("Department" or "Ecology") Preliminary Draft Rule as part of Safer Products for Washington.² NAFRA previously submitted comments on August 23 regarding the Preliminary Draft Rule with respect to the use of organohalogen flame retardants (OFRs) in plastic casings and enclosures for electronic and electrical equipment. The supplemental comments build on the comments submitted to Ecology on August 23.

NAFRA appreciates the opportunity to comment on the Department's Preliminary Draft Rule and looks forward to additional opportunities during the regulatory process to discuss with Ecology the benefits of flame retardants in casings and enclosures for electrical and electronic equipment. If you have questions or need clarification, please contact me at ben_gann@americanchemistry.com or 202-249-7000.

Sincerely,

A handwritten signature in black ink that reads "Ben Gann".

Ben Gann
Director
American Chemistry Council

¹ The American Chemistry Council's North American Flame Retardant Alliance represents the leading producers of flame retardants used in wide variety of industrial and consumer applications. NAFRA members represent cutting edge fire-safety chemistry and technology and are dedicated to improving fire safety performance in key product applications. NAFRA members are Albemarle Corporation, ICL Industrial Products, and Lanxess. For more information on NAFRA, visit <https://www.americanchemistry.com/industry-groups/north-american-flame-retardant-alliance-nafra>.

² Washington Department of Ecology, Preliminary Draft Rule Language: Safer Products for Washington Implementation, August 9, 2022.
https://www.ezview.wa.gov/Portals/_1962/Documents/saferproducts/PreliminaryDraftRuleLanguage_Cycle1_August2022.pdf



NAFRA provides the following supplemental comments on the preliminary draft rule language for OFRs in casings and enclosures for electrical and electronic equipment. In comments submitted on August 23, NAFRA raised the following issues and concerns:

- Regulatory actions outlined by the Department in the Preliminary Draft Rule are inconsistent with the state of the science and do not sufficiently consider fire safety;
- The Preliminary Draft Rule language for OFRs in casings and enclosures for electronic and electrical equipment does not represent the least burdensome alternative;
- Scope of the regulation should be narrowed and aligned with existing state, federal, and international regulations;
- Greater consideration is needed for product design and performance in the development of any regulations; and,
- A more deliberate approach is needed for the regulatory process, including additional time for stakeholders to provide feedback.

Outlined below and expanded upon in greater detail are additional key issues and concerns that the Department should consider in developing regulations for a diverse set of chemicals used in a wide range of electrical and electronic products.

1. Need for further consideration in the assessment of flame retardants and their use in products intended for indoor and outdoor uses

a. Current regulatory approach does not differentiate between individual OFRs, including emerging technologies

In the Final Determinations Report, Ecology distinguished between additive and reactive flame retardants.³ The Department contrasted additive flame retardants with reactive flame retardants, finding that reactive flame retardants have a lower potential for release because they are chemically reacted with the materials used in the product. Despite this recognition, Ecology still collectively considered and assessed exposure risk of additive and reactive flame retardants.

Flame retardants can be liquids or solids that can be physically incorporated into a material (additive) or chemically transformed to create a new fire-resistant material (reactive). Additive flame retardants are incorporated into compounds via physical mixing. Compounds containing flame retardant elements are mixed with existing polymers without undergoing any chemical reactions. By contrast, reactive flame retardants are incorporated into polymers via chemical reactions.

³ Washington Department of Ecology, *Regulatory Determinations Report to the Legislature: Safer Products for Washington Cycle 1 Implementation Phase 3*, page 44, June 6, 2022.
<https://apps.ecology.wa.gov/publications/documents/2204018.pdf>

Ecology's focus on source reduction across the product lifecycle likely overstates the potential exposure risk. First, there are major differences between additive OFRs, with some achieving a Benchmark-2 score as part of a GreenScreen Assessment. Consequently, there is a need to distinguish even among additive flame retardants. Second, it ignores the continued research and development by companies to chemically react OFRs with existing polymers to create new fire-resistant materials for electronic casings and enclosures. Restricting the use of OFRs in casings and enclosures – even for reactive applications – unnecessarily lumps together a diverse range of compounds intended to improve fire safety and product performance. This could stifle innovation and ultimately lead to the use of alternatives that are less desirable in terms of both toxicological profile and product performance.

NAFRA recommends that Ecology separately consider additive and reactive flame retardants in order to avoid overstating exposure risk. Taking this approach would allow Ecology to make regulatory decisions regarding flame retardants with more readily identifiable exposure risks and prevent unnecessary restrictions of flame retardants that present low or no exposure risk. Ecology already recognized in its criteria for safer products that chemicals being bound or encapsulated, or behind a functional barrier, could impact exposure magnitude.⁴ ACC recommends Ecology apply this same reasoning to flame retardants, and acknowledge that most flame retardants are embedded within the polymer matrix, and therefore unlikely to result in significant exposure.

b. Current regulatory approach for indoor products ignores the variety of criteria considered in product design

The Department has proposed regulating the use of OFRs used in plastic casings and enclosures for electronic and electrical equipment intended for indoor use when it is powered by either 1) a standard 120-volt outlet and designed for up to a 20-amp circuit or 2) a battery.⁵ Such a regulatory proposal disadvantages some indoor products and does not adequately consider that exposure to moisture is a major design consideration for product manufacturers.

For example, exposure to moisture is a primary design consideration for both clothes washers and clothes dryers. In the case of dryers, they also have added design considerations such as heat and mass transfer. Clothes washers for the United States (U.S.) market typically utilize a standard 120-volt circuit and thus would be subject to the proposed regulation for indoor products. Conversely, clothes dryers typically utilize a 220-volt circuit and thus would not be subject to the proposed regulation for indoor products. This would set up an odd regulatory scenario where clothes washers might need to undergo a redesign to be sold in Washington State, but clothes dryers might not need to undergo

⁴ Ibid. page 284.

⁵ Preliminary Draft Rule at 15.

any redesign to be sold in Washington State. If product design considerations are more fully considered for indoor products – such as the Department has done for outdoor products – perhaps a more consistent regulatory approach can be developed which recognizes that OFRs sometimes may be the most appropriate flame retardant option to help ensure overall product safety.

There are clear recommendations provided to product manufacturers regarding what flame retardants are compatible with specific polymers, as a mismatch typically leads to the deterioration of physical properties. Likewise, formulators seek flame retardants with structures similar to the base resin where they will be used. Doing so aids in maintaining the physical characteristics of the base resin and minimizes the potential for migration. The current regulatory proposal at times ignores that flame retardants are used in combination with specific resin systems. As such, switching from the use of an OFR to an organophosphate flame retardant (OPFR) in the casing or enclosure of an electrical or electronic product, also requires a change in the resin system. This can result in the need to redesign other parts of the product without sufficient consideration being given to whether it improves to the overall safety of the product.

c. More clarity needed regarding products intended for indoor use and outdoor use

The Department proposes regulating electronic and electrical equipment intended for indoor use that contains an intentionally added individual OFR of more than 1,000 parts per million (ppm) in the casing or enclosure or a combination of intentionally added OFRs of more than 1,500 ppm in the casing or enclosure.⁶ Conversely, Ecology proposes a reporting requirement covering all electronic and electrical equipment intended for outdoor use where OFRs are used in the casing or enclosure. This is due to the lack of identified flame retardant alternatives to OFRs for casings and enclosures intended for outdoor use.

The current regulatory proposal naturally raises the question of when and how electronic and electrical products that can be used both indoors and outdoors would be regulated. In the Preliminary Draft Rule, the Department defines “intended for indoor use” as “a product designed for primarily use in buildings” and “intended for outdoor use” as “a product designed to maintain functionality after exposure to ultraviolet (UV) light, water, or immersion when used outdoors for an extended time.”⁷ Examples of such products marketed for use both indoors and outdoors include portable Bluetooth speakers, wireless security cameras, and digital thermometers. Should the department insist on maintaining such a bifurcated approach to regulating the use of OFRs in casings and enclosures for electronic and electrical equipment, more clear definitions regarding “intended for indoor use” and “intended for outdoor use” will be needed to prevent ambiguity and confusion.

⁶ Ibid. page 16.

⁷ Ibid. pages 4-5.

2. Proposed regulatory actions regarding exemptions must be enhanced

a. Additional common-sense exemptions are needed

The Preliminary Draft Rule Language does not incorporate a number of exemptions common to this type of regulatory proposal. NAFRA suggests that the following exemptions be added to any regulations proposed by the Department.

- Previously owned products. It is standard for chemical-product restrictions to apply only to new products. This allows resale of products that had already reached consumers before the restriction went into effect, which in turn prevents the environmentally unfavorable outcome of disposing products before they have reached end-of-life. Examples of chemical product restrictions that allow re-sale of previously owned equipment include the U.S. Environmental Protection Agency's (EPA) recently enacted Toxic Substances Control Act (TSCA) Persistent, Bioaccumulative, and Toxic (PBT) Rules⁸ and the European Union Restriction on Hazardous Substances (EU RoHS).⁹ Ecology should delete Section 060 of the Preliminary Draft Rule Language ("Previously-owned priority consumer products") and include a new exemption in Section 112(1)(a)(ii) for products that have been previously sold or supplied to an end-user.
- Spare parts. Material restrictions laws commonly incorporate the "repair as produced" principle, which allows continued production of spare parts for equipment that went on the market before the restriction went into effect. This also helps minimize premature obsolescence. Ecology should incorporate an exemption for spare parts designed for use solely in products placed on the market before the restriction date.
- Research and development equipment. The Safer Products for Washington program should not interfere with the research and development activities conducted by Washington's businesses. Exemptions from material restrictions for research and development are common. They are incorporated, for example, in the TSCA PBT Rules¹⁰ and in EU RoHS.¹¹

⁸ 40 C.F.R. 751.401(b)(a) (exempting products and articles that have "previously been sold or supplied to an end user, *i.e.*, any person that purchased or acquired the finished good for purposes other than resale").

⁹ Directive 2011/65/EU, as amended, available at <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:02011L0065-20220701&from=EN> (defining "placing on the market" as "making available...on the Union market for the first time").

¹⁰ 40 C.F.R. 751.401(b)(3).

¹¹ Directive 2011/65/EU, as amended, Article 2.4(j).

b. Support for the small part exemption

The Department has proposed a small part exemption as part of its Preliminary Draft Rule for casings and enclosures for electronic and electrical equipment intended for indoor use. Under the proposal, “plastic external enclosure parts that weigh less than 0.5 grams” are exempt from the regulations on the use of OFRs in casings and enclosures for electronic and electrical equipment intended for indoor use.¹² NAFRA agrees with the proposed exemption for the reasons described by Ecology in the Preliminary Draft Rule.¹³

3. Conclusion

As stated in the comments submitted on August 23, as well as these supplemental comments, NAFRA has concerns with the Preliminary Draft Rule. The Department should fully consider and incorporate NAFRA’s feedback as it moves forward in the regulatory process to ensure that a broad range of product design considerations – including fire safety – is reflected. Electronics and electrical equipment is a complex product category and any regulations regarding the use of OFRs in such products should reflect the current state of the science.

Suggested areas for improvement to the Preliminary Draft Rule include 1) greater recognition of the differences among OFRs, 2) greater clarity regarding the definitions “intended for indoor use” and “intended for outdoor use” and 3) additional exemptions for the use of OFRs in casings and enclosures of electronic and electrical equipment.

¹² Preliminary Draft Rule at 15.

¹³ *Ibid.*, page 17.