



February 5, 2023

Stacey Callaway
Hazardous Waste and Toxics Reduction Program
Washington Department of Ecology
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Olympia, WA 98504-7696

Dear Ms. Callaway:

Thank you for the opportunity to provide input on the proposed regulation to implement the landmark 2019 Safer Products for Washington law, which is the strongest law in the nation to address harmful chemicals in products.

The agency is breaking new ground with this program and is proposing significant bans on four classes of chemicals in ten product categories. This is an excellent step forward, and we appreciate all the work that went into this important rule.

We support the proposed restrictions. Ecology identified safer, feasible and available alternatives and is proposing to restrict the following chemicals in products:

- Organohalogen flame retardants in electric & electronic products with plastic external enclosures intended for indoor use and certain flame retardants in recreational polyurethane foam (excluding wall padding; organohalogen flame retardants and flame retardants identified in RCW 70A.430.01011);
- PFAS in carpet, rugs, and indoor leather and textile furnishings and in aftermarket stain- and water- resistance treatments;
- Orthophthalates in fragrances of beauty and personal care products and in vinyl flooring;
- Bisphenols in drink cans and thermal paper; and
- Alkylphenol ethoxylates (APEs) in laundry detergent.

The agency's December 2022 proposed rule, published under Phase 4 implementation of the landmark Safer Products for Washington (RCW 70.350), is a critical step to protect sensitive populations and species in the state and establish a path toward clean and healthy materials used in homes, schools, and workplaces.

The Safer Products for Washington law is our best opportunity to prevent pollution at the source from the toxic chemicals in millions of products and their packaging that contaminate our homes, drinking water, communities, food, waterways, and wildlife. The actions under this rule pave the way for important outcomes:

- **Stopping the contamination of breast milk and protecting the most vulnerable.** A recent peer-reviewed study found per- and polyfluorinated substances (PFAS) in 100% of breast milk samples tested from 50 women in Washington, and showed that detections of newer forms of PFAS, including some found in textiles, are doubling every four years.ⁱ
- **Ending toxic pollution from products that contaminates communities, drinking water, and wildlife saving money.** PFAS contaminates drinking water throughout Washington state, from Whidbey Island to Spokane. The costs of cleaning up PFAS are rising, and spending has reached more than \$64 million in Washington State.ⁱⁱ Banning PFAS and other persistent, bioaccumulative, toxic chemicals in products will keep them out of surface water bodies, sewage treatment plants, and biosolids spread on forests, farms, and gardens.

Strong, enforceable chemical bans work. Importantly, though, both the class-based approach and the tools to identify safer solutions used in the Safer Products for Washington program are critical to prevent regrettable substitutes. For example, when PBDE flame retardants were banned in Washington, scientists recorded levels of these chemicals decreasing in harbor seals, Pacific herring, and English sole.ⁱⁱⁱ However, replacement flame retardants used since are also brominated and also persist and build up in wildlife. Restricting all organohalogen flame retardants (based on chlorine, bromine, or fluorine chemistries), which all pose health concerns, is the most effective strategy to decrease their levels in both humans and wildlife.

Manufacturers that use highly hazardous, persistent, and often the cheapest chemicals externalize the staggering cost of the impacts of those chemicals to taxpayers, ratepayers, health-care patients, and their families, and to future generations.

While toxic chemicals impact everyone, vulnerable populations such as low-income communities and communities of color, particularly women of color, are disproportionately impacted. This leads to intergenerational harm as their children can carry the burden of negative health effects from toxics.

Protecting the most vulnerable, including highly impacted communities, is core to the law: environmental justice cannot be an add-on. To accomplish this, it is critical that the restrictions are stringent, with no loopholes or broad exemptions, that phaseout timelines are short, and that enforcement happens. If the restrictions are not strong or well-enforced, the burden will be on already overburdened individuals and communities to protect themselves, which will only continue and exacerbate the injustice that exists.

General Comments on the proposed SPW Rule

Comment: Enforcement thresholds for restrictions should be lower than those for PCBs and as close to zero as possible.

Rationale: Persistent, bioaccumulative, toxic chemicals, such as those addressed in the proposed regulation:

- do not break down as products are recycled or as these chemicals migrate from products into the environment,
- are extremely expensive and difficult to clean up,
- bioaccumulate from extremely low levels to detrimental levels through the food web, and

- harm both humans and animals.

For these reasons, limits on priority chemicals need to be set as close to zero as possible.

PCBs offer a cautionary tale of this need particularly relevant for Washington State. Like the chemicals addressed in the proposed regulation, PCBs are persistent, bioaccumulative, and toxic. While their production in the United States was banned in 1979 under the Toxics Substances Control Act, some inadvertently generated PCBs are still allowed in products at concentrations of up to 50 ppm, with the exception of detergent bars, where concentrations must be less than 5 ppm.^{iv}

PCBs occur in inks and dyes, which are applied to paper products. When paper products are recycled, PCBs migrate from the paper pulp to wastewater, which is discharged into water bodies. EPA has set the limit for PCB discharges to water from recyclable paper at 3 ppb total Aroclors, which are defined PCB mixtures.^v

While the discharge limit is low, EPA has set the water quality standard several orders of magnitude lower. The National Aquatic Life Criterion for total PCBs for freshwater is 0.014 µg/L (ppb) and 0.03 µg/L (ppb) for saltwater.^{vi} These limits were deemed necessary to protect human and environmental health; they are so low precisely because PCBs are persistent, bioaccumulative and toxic.

However, the PCB limit of 50 ppm in inks and dyes has proven insufficient to allow paper recyclers to meet their wastewater discharge limits of 3 ppb. SB 5369, currently before the Legislature, states that water quality standards “cannot be achieved with currently available water treatment technology if the waste stream continues to include new sources of PCBs allowable under the toxic substances control act at levels measured in products such as paints, inks, and pigments....Therefore, the legislature finds that nonlegacy PCB contamination may most effectively be managed upstream at the product and process source as opposed to downstream facilities at the end of the product life cycle. The toxic substances control act standard for inadvertent PCBs does not reflect current science on limits needed to protect human health and the environment and is overdue for revision.”^{vii}

The limits on PCBs in products are more than an order of magnitude lower than those proposed in the proposed regulation for ortho-phthalates in vinyl flooring, halogenated flame retardants in indoor electronics and recreational foam, and APEs in detergent and one quarter of the limit proposed for bisphenols in thermal paper. While migration routes from products to the environment may vary, all of the chemicals in the proposed regulation, like PCBs, are persistent, bioaccumulative, and toxic. It is critical that lessons from the failure of limits on PCBs in products be applied to the current regulation.

Specific Comments on the proposed SPW Rule

WAC 173-337-050 Equity and environmental justice. (1)(e)

Comment: To the sentence, “This includes, but is not limited to, considering overburdened communities and low-income populations' ability to access safer consumer product,” we suggest adding, “as a result of regulatory action.”

Rationale: Access to safer consumer products does not occur in isolation. Government regulation sets the baseline for product safety for all communities; the proposed amendment recognizes this fact.

Regulation through Safer Products for Washington is critical to leveling the playing field for access to safer consumer products by overburdened communities.

WAC 173-337-110 PFAS.

Comment: We strongly support the proposed restrictions on PFAS in rugs, carpets, indoor textile furnishings, and aftermarket treatments.

Rationale: The agency's November 2021 report demonstrates that it has met the legal requirements in RCW 70A.350 to ban PFAS in rugs, carpets, textile furnishing and aftermarket treatments. Specifically, it has identified safer, feasible, and available alternatives using criteria in the statutory language, and determined that the proposed regulatory action will reduce a significant source or use of the priority chemical. See RCW 70A 350.010 (13), 350.030(2)(f).

- The agency's determinations meet statutory criteria, RCW 70A 350.030(2)(a - c). This is supported by recent research conducted by Toxic-Free Future that confirms the widespread use of PFAS in home furnishings, including bedding, tablecloths, and napkins marketed as stain- or water-resistant. Our testing of 40 home-furnishing items found the following:
 - PFAS were detected in 9 of 13 bedding items marketed as stain- or water-resistant.
 - PFAS were detected in 10 of 14 tablecloths and napkins with stain or water resistance claims.^{viii}

These results indicate that PFAS are commonly added by manufacturers to achieve stain or water resistance. As Ecology identified safer, available alternatives, this underscores the urgency of Ecology's action to restrict PFAS in home furnishings.

- The agency's determinations meet statutory criteria, RCW 70A 350.030(2)(f). This is supported by the fact that more and more companies are making commitments to end their use of PFAS, and new alternatives are entering the market rapidly. The following additional information supplements and supports Ecology's report:
 - Leading brands such as H&M, IKEA, KEEN, and Levi's have eliminated PFAS in all of their textiles.
 - In 2019, The Home Depot and Lowe's ended the sale of all carpets and rugs containing PFAS.
 - A year later, after 3M reformulated and eliminated PFAS in its consumer Scotchgard aftermarket treatment products, Lowe's announced it was ceasing the sale of all aftermarket treatment sprays containing PFAS.
 - In December 2022, 3M, a major manufacturer of PFAS, announced that it would exit all PFAS manufacturing by the end of 2025,^{ix} following estimates that its total liability in PFAS-related lawsuits may reach \$30 billion.^x

Comment: We support the agency's approach that detecting Total Organic Fluorine (TOF) indicates PFAS.

Rationale: This is prudent given that state and federal drinking water levels are being set in the parts per trillion.^{xi,xii} To truly keep these chemicals out of the environment, the levels in products need to be as close to zero as possible.

WAC 173-337-111 Ortho-phthalates.

Comment: We strongly support the proposed restrictions on ortho-phthalates in fragrances and personal care products and vinyl flooring.

Rationale: The agency has met the legal requirements in RCW 70A.350 to ban phthalates in fragrances and personal care products and in vinyl flooring. Specifically, it has identified safer, feasible, and available alternatives using criteria based on guidance in the statutory language and determined that the proposed regulatory action will reduce a significant source or use of the priority chemical. See RCW 70A 350.010 (13), 350.030(2)(f). As noted in the report, most major home improvement and flooring chains have already banned ortho-phthalates as a class in flooring, including The Home Depot, Lowe's, Lumber Liquidators, Ace Hardware, Floor & Decor, and Menards.

Comment: Enforcement thresholds for restrictions on ortho-phthalates should be lower than 50 ppm, the limit for PCBs, and as close to zero as possible.

Rationale: We support the restriction on ortho-phthalates in vinyl flooring and the limit applying to any ortho-phthalate, individually or combined. However, the 1000 ppm limit is too high. We are very concerned that vinyl flooring can contain recycled content, and that phthalates should not be recycled. The limit should be set much lower to address this, particularly given that vinyl floors are low-cost and used widely in affordable housing.

WAC 173-337-112 Flame retardants. (1) Electric and electronic products with plastic external enclosures, intended for indoor use.

Comment: We strongly support the proposed restrictions on organohalogen flame retardants in external plastic casings of indoor electric and electronic products.

Rationale: Safer Products for Washington, RCW 70A.350, requires the agency to take regulatory action that will 1) increase transparency about the use of toxic chemicals in products and, 2) reduce the use of priority chemicals in priority consumer products. The agency's November 2021 report demonstrates that it has met the legal requirements in RCW 70A.350 to ban organohalogen flame retardants (OFRs) in electric and electronic equipment with plastic enclosures.

- The agency's determination meets statutory criteria, RCW 70A 350.030(2)(e). This action is consistent with legal requirements already adopted in Europe and most recently in New York. The New York ban goes into effect on January 1, 2024. Given that New York is the third-largest economy in the nation and the EU accounts for around 15% of the world's trade in goods, this will increase even further the availability and feasibility of OFR-free plastics used for electronics.

Further, the Consumer Product Safety Commission (CPSC) voted in 2017 issued guidance for manufacturers, retailers, and consumers, especially those with young children or who are pregnant, to avoid these chemicals in electronics enclosures and other product categories.

- The agency’s determination meets statutory criteria, RCW 70A 350.010 (13), 350.030(2)(f). Ecology has identified safer, feasible, and available alternatives using criteria based on guidance in the statutory language and determined that the proposed regulatory action will reduce a significant source or use of the priority chemical. The Department of Ecology’s 2009 report on safer alternatives for flame retardants in television housings concluded non-halogenated, safer substitutes were available. Ecology’s 2021 report identified the same safer alternative, and the action is long overdue.

Further support for the agency’s determination under RCW 70A 350.010 (13), 350.030(2)(f) is provided by observations of the marketplace:

- Best Buy, one of the United States’ largest retailers of consumer electronics, announced on January 21, 2022, that its Exclusive Brand (ExB) televisions will comply with Europe’s ban on organohalogen flame retardants for all newly designed models.^{xiii} Best Buy will be using GreenScreen Benchmark 3 flame retardants, which meet Ecology’s definition for “safer”.^{xiv}
- No Sony television enclosures currently manufactured, sold, or distributed within North America contain intentionally added OFRs.^{xv}
- LG is also working to phase out OFRs starting in 2021 for Europe and beginning to consider a phase-out for the U.S.^{xvi}
- As noted in the agency’s report, TCO Certified, the leading third-party certification for IT products, requires that plastic enclosures use flame retardants that are not only simply not organohalogens, but meet GreenScreen Benchmark 2 or higher. Over 3800 product models produced by over 25 brands, including HP, Samsung, Phillips, and others, are currently certified by TCO.^{xvii}

It is especially important that the restriction is comprehensive of indoor electronics. People are exposed to flame retardants from many types of indoor electronics, not just TVs, including kitchen appliances, phones, hair dryers, etc. Flame retardants cannot be contained in any of these products; they migrate from the products to indoor dust and air, to water, wildlife, and people.

We would like to emphasize that restricting OFRs is needed to protect the health of humans and the environment and will not impact fire safety. The Ecology report details how fire safety standards can be met with alternative materials or safer chemicals. Companies are already doing this, and fire safety won’t be compromised by banning OFRs. Please also consider that the chemical industry has, for decades, made deceptive claims about fire safety, which drove the use of dangerous chemicals that now contaminate our homes, breast milk, and wildlife. Their use has also put the lives of firefighters and other first responders at risk. The International Association of Fire Fighters and the Washington State Association of Fire Fighters have been calling for bans on OFRs in products, including electronics, for years.^{xviii, xix, xx, xxi, xxii, xxiii, xxiv}

Comment: The organohalogen flame retardant restriction for indoor electronics should be more stringent, given experience with previous laws.

Rationale: In our testing, we have seen that companies will continue to produce casings for electronics that contain banned flame retardants at significant levels, many years after the ban went into place.

These are chemicals that at least for some time will continue to be produced and used in other jurisdictions and allowing their presence at a relatively high level incentivizes companies to continue allowing their presence and maintain sloppy production practices. In addition, the enforcement level should apply to the total content at the homogenous material level, not the product level; that is, if a casing is made of multiple materials, each one must meet the limit. It is an approach consistent with Europe.

- **Experience from the PBDE ban shows us that more stringent requirements are needed.** Washington’s PBDE law banned TV electronic enclosures from containing deca-BDE in 2011 after identifying safer alternatives.^{xxv} The law excluded recycled plastic content. Testing of TVs in 2017 by Toxic-Free Future found deca-BDE in three televisions along with an array of other flame retardants at a variety of levels.^{xxvi} Follow-up testing published in 2019 again found deca-BDE in televisions.^{xxvii} There is no way to tell how the deca-BDE or the array of flame retardants ended up in the TV so the standard should apply to any flame retardants, not just intentionally added ones.
- **Recycling of electronics demands strict restrictions far below 1000 ppm.** To keep organohalogen flame retardants out of recycled products, restrictions need to be set as close to zero as is practical. In a 2022 study, the International POPs Elimination Network (IPEN) tested for brominated flame retardants in black plastic items from China, Russia, and Indonesia that were not required to meet fire safety standards. They found brominated flame retardants in children’s toys, office supplies, hair accessories, and kitchen utensils. Some products the contained brominated flame retardants in the hundreds of parts per million.^{xxviii} Their findings suggest that the presence of brominated flame retardants was due to unregulated e-waste recycling.

When flame retardants from TVs are recycled into children’s toys, it poses threats to the health of children. A May 2022 study found that flame retardants migrated from children’s toys into children’s saliva.^{xxix}

WAC 173-337-112 Flame retardants. (1)(b), sections (iii) and (iv)

Comment: We recommend amending the compliance schedules for Group 1 and Group 2 by adding the words “but is not limited to” immediately before the bulleted lists that begin with all-in-one video conference systems and end with virtual reality headsets.

Rationale: This change will not alter the intent of the restriction, but will clarify it, making explicit that the four categories of electronic products listed are not the only ones covered by the restriction.

WAC 173-337-112 Flame retardants. (3) and (4) Recreational products made from polyurethane foam.

Comment: We strongly support the proposed restrictions and disclosure requirements for flame retardants in recreational polyurethane foam.

Rationale: Safer alternatives are foam products without added flame retardants. Flame retardants are not needed in this category of foam products and pose an unnecessary exposure to sensitive

populations, including young people, workers, pregnant women, and women of childbearing age in facilities using recreational foam.

WAC 173-337-114 Bisphenols. (1) Drink can linings and (3) Thermal paper

Comment: We strongly support the proposed restrictions on bisphenols in drink can linings and thermal paper.

Rationale: The agency has met the legal requirements in RCW 70A.350 to ban bisphenols (BPA) in both drink cans and thermal paper. Specifically, it has identified safer, feasible, and available alternatives using criteria based on guidance in the statutory language and determined that the proposed regulatory action will reduce a significant source or use of the priority chemical. See RCW 70A 350.010 (13), 350.030(2)(f). The agency's determinations meet additional statutory criteria, RCW 70A 350.030(2)(e), because they are supported by recent governmental and market policies and research that are aligned with the regulatory determinations.

WAC 173-337-113 Alkylphenol ethoxylates. Laundry detergent.

Comment: We strongly support the proposed restrictions on alkylphenol ethoxylates in laundry detergent.

Rationale: The agency has met the legal requirements in RCW 70A.350 to ban alkylphenol ethoxylates in laundry detergent. Specifically, it has identified safer, feasible, and available alternatives using criteria based on guidance in the statutory language and determined that the proposed regulatory action will reduce a significant source or use of the priority chemical. See RCW 70A 350.010 (13), 350.030(2)(f). The agency's determinations meet additional statutory criteria, RCW 70A 350.030(2)(e), because they are supported by recent governmental and market policies and research that are aligned with the regulatory determinations.

Comment: APE limits should be lower than 5 ppm, consistent with limits on PCBs in detergent bars.

Rationale: We support the ban on APEs in laundry detergents; however, the 1000 ppm threshold is too high. Ecology identified safer, feasible, and available alternatives certified by the EPA in its Safer Choice program. There is no reason for APES to be used in detergents, so the levels should be much closer to zero.

EPA set the limit for PCBs in detergent bars as less than 5 ppm. Like PCBs, APEs are persistent, bioaccumulative, and toxic. Like detergent bars, laundry detergent is designed to be mixed with and discharged in wastewater. The limit for APEs in laundry detergent should therefore be aligned with the limit on PCBs in detergent bars.

Congratulations to Ecology’s staff on an extraordinary body of work over the first four phases of implementing the Safer Products for Washington Law. This regulation, grounded in both sound science and market realities, has the potential to provide critically needed protections for Washington’s residents, especially those most vulnerable, and its environment. Please feel free to contact us with any questions regarding our comments.

Sincerely,

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Toxic-Free Future

Mark Rossi
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Clean Production Action

Sources:

ⁱ Zheng, G; Schreder, E.; Dempsey, J.C.; Uding, N.; Chu, V.; Andres, G.; Sathyanarayana, S.; Salamova, A., Per- and Polyfluoroalkyl Substances (PFAS) in Breast Milk: Concerning Trends for Current-Use PFAS. *Environmental Science & Technology* 2021 55 (11), 7510-7520.

ⁱⁱ Safer States, Toxic-Free Future, Make them pay. <https://nonsticknightmare.org/nightmare-costs/>, accessed February 3, 2023.

ⁱⁱⁱ Uding, N., Toxic PBDE Flame Retardants Decreasing in Puget Sound After State Bans. Toxic-Free Future, 2016, <https://toxicfreefuture.org/blog/toxic-pbde-flame-retardants-decreasing-in-puget-sound-after-state-bans/>, accessed February 3, 2023.

^{iv} US Environmental Protection Agency, “Polychlorinated Biphenyls: Inadvertent PCBs,” <https://www.epa.gov/pcbs/inadvertent-pcbs>, accessed February 2, 2023.

^v Washington State Department of Ecology and Washington State Department of Health, “PCB Chemical Action Plan,” February 2015, p. 141.

^{vi} US Environmental Protection Agency, “National Recommended Water Quality Criteria - Aquatic Life Criteria,” <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table>, accessed February 2, 2023.

^{vii} Senate Bill 5369, Washington State Legislature, <https://app.leg.wa.gov/billsummary?BillNumber=5369&Year=2023&Initiative=false>, accessed February 2, 2023.

^{ix} 3M News Center, “3M to Exit PFAS Manufacturing by the end of 2025,” December 12, 2022, <https://news.3m.com/2022-12-20-3M-to-Exit-PFAS-Manufacturing-by-the-End-of-2025>, accessed 1/12/2023.

^x Bloomberg Law, “Companies Face Billions in Damages as PFAS Lawsuits Flood Courts,” May 23, 2022, <https://news.bloomberglaw.com/pfas-project/companies-face-billions-in-damages-as-pfas-lawsuits-flood-courts>, accessed 1/12/2023.

^{xi} Washington State Department of Health, PFAS: PFAS and Drinking Water. <https://doh.wa.gov/de/node/5493>, accessed February 3, 2023.

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- ^{xii} US Environmental Protection Agency, Drinking Water Health Advisories for PFOA and PFOS. <https://www.epa.gov/sdwa/drinking-water-health-advisories-pfoa-and-pfos>, accessed February 3, 2023.
- ^{xiii} Valeriano, Ale; "Best Buy commits to eco-friendly television displays," Best Buy, January 21, 2022, <https://corporate.bestbuy.com/best-buy-commits-to-eco-friendly-television-displays/>, accessed February 3, 2023.
- ^{xiv} Communication to Toxic-Free Future, 2/7/2022.
- ^{xv} Communication to Toxic-Free Future and Mind the Store, 4/20/2020.
- ^{xvi} Communication to Toxic-Free Future and Mind the Store, 5/1/2020.
- ^{xvii} TCO Certified, Product Finder, <https://tcocertified.com/product-finder/>, accessed February 3, 2023.
- ^{xviii} Chicago Tribune, Tribune Watchdog: Playing with Fire. <https://media.apps.chicagotribune.com/flames/index.html>, accessed February 4, 2023.
- ^{xix} Redford, J. and Walker, K. (Directors). (2013). Toxic Hot Seat. <https://www.imdb.com/title/tt3212404/>, accessed February 4, 2023.
- ^{xx} International Association of Fire Fighters, Lobbyists Deny Flame Retardant Links to Fire Fighters and Cancer. <https://www.iaff.org/news/frlfc/>, accessed February 4, 2023.
- ^{xxi} Roe, S.; Callahan, C.; Retired UW Burn Doctor Telling Tales to Promote Fire Retardants. *The Seattle Times* May 7, 2022, <https://www.seattletimes.com/nation-world/retired-uw-burn-doctor-telling-tales-to-promote-fire-retardants/>, accessed February 4, 2023.
- ^{xxii} McGann, C., Twist in Effort to Ban Fire Retardant. *Seattle PI* January 11, 2007, <https://www.seattlepi.com/local/article/Twist-in-effort-to-ban-fire-retardant-1225136.php>, accessed February 4, 2023.
- ^{xxiii} Pingree, H., Statement of Hannah Pingree to the US Senate Environment and Public Works Committee and the Subcommittee on Superfund, Toxics, and Environmental Health, July 24, 2012, https://www.epw.senate.gov/public/_cache/files/e/f/efdbf9be-6fd1-4d56-b8da-719d7485cb83/01AFD79733D77F24A71FEF9DAFCCB056.72412hearingwitness testimony pingree.pdf, accessed February 4, 2023.
- ^{xxiv} Chemical & Engineering News, State Legislators Seek Federal Hearing on Flame Retardants. July 17, 2012, *Chemwatch* July 23, 2012 <https://bulletin.chemwatch.net/legislation/state-legislators-seek-federal-hearing-on-flame-retardants>, accessed February 4, 2023.
- ^{xxv} RCW 70A.405.020.
- ^{xxvi} Schreder, E.; Peele, C.; Uding, N., TV Reality: Toxic Flame Retardants in TVs. Toxic-Free Future and Clean Production Action, 2017, <https://toxicfreefuture.org/wp-content/uploads/2017/09/TV-Reality-Report-FINAL1.pdf>, accessed February 3, 2023.
- ^{xxvii} Toxic-Free Future, Toxic TV Binge: An Investigation into Flame Retardants in Televisions. 2019, <https://toxicfreefuture.org/research/toxic-tv-binge-an-investigation-into-flame-retardants-in-televisions/>, accessed February 4, 2023.
- ^{xxviii} IPEN; Brominated Flame Retardants in Plastic Products from China, Indonesia, and Russia. 2022, <https://ipen.org/documents/brominated-flame-retardants-plastic-products-china-indonesia-and-russia>, accessed February 3, 2023.
- ^{xxix} Brandsma, S. H.; Leonards, P. E. G.; Koekkoek, J. C.; Samsonek, J.; Puype, F., Migration of hazardous contaminants from WEEE contaminated polymeric toy material by mouthing. *Chemosphere* 2022, 294, 133774.