On July 13, 2021, the Washington State Departments of Ecology and Health hosted a webinar to update stakeholders on our progress identifying safer alternatives that are feasible and available to replace bisphenols in food and drink can linings. We also discussed our progress assessing whether recreational polyurethane foam without added flame retardants is feasible and available.

Note: This document outlines the questions attendees asked during the webinar as well as the answers the Safer Products for WA team provided. Find the comments and input attendees shared during the webinar in the July 13, 2021 webinar presentation,[1] including the foam discussion[2] and the food and drink cans discussion.[3] If you have questions, contact us at SaferProductsWA@ecy.wa.gov.

Recreational polyurethane foam questions and answers

Q: What is the scope of the priority product category on recreational foam? You mentioned gym facilities. Is it only the foam found in gyms or also daycares and other types of facilities?

A: You can find more information about the specific product category detailed in our report on priority products.[4] The product category is not just focused on gyms, and includes any facilities that use recreational polyurethane foam products. Outdoor recreational products made from polyurethane foam are included. We mentioned gyms as examples of facilities that contain covered and uncovered recreational foam products. Further, there is more data available for these facilities, and they will likely have the largest volume of foam products in them. School gyms are also locations we would expect to find these products, so those are in the scope of this product category as well.

Q: I am not related to a gymnastic gym, but if there are regulations, how would this impact smaller gyms that don't have sprinkler systems? Would this put them out of business?

A: That's something we want stakeholder input about—to ensure that if there are any facilities in Washington that contain recreational foam pits but not have sprinklers, there is appropriate fire safety in those facilities. If there are facilities with recreational foam pits that don't have sprinkler systems, we would first be interested in what fire control and fire response measures there are in place. We'd want to talk to the local fire departments to determine whether flame retardant free foam would be feasible in those applications. The hope is that we are not creating an unreasonable situation for small businesses, which is why we're opening our door to as much input as possible. Getting more information to understand what other fire safety mechanisms are in place in those businesses so we can make sure the fire safety performance is still met without the flame retardants is crucial. If you're aware of smaller gyms without sprinkler systems that have these types of products, please let us know—we would like to connect with them. We do have the authority to restrict based on the use case, which gives us flexibility as we gather feedback from stakeholders.

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[1] https://www.ezview.wa.gov/Portals/_1962/Documents/saferproducts/July_13_2021_Webinar_Presentation.pdf

[2] https://www.ezview.wa.gov/Portals/_1962/Documents/saferproducts/July_13_2021_Webinar_Presentation.pdf#page=44

[3] https://www.ezview.wa.gov/Portals/_1962/Documents/saferproducts/July_13_2021_Webinar_Presentation.pdf#page=87

[4] https://apps.ecology.wa.gov/publications/documents/2004019.pdf

Q: So playing couches (which are very popular right now, like Nugget or Blocksy) are excluded, right?

A: Correct. These products have reporting requirements under our Children's Safe Products Act.[5] Manufacturers report the presence of chemicals (specifically, those included on the Chemicals of High Concern to Children List[6]) in those products. Manufacturers can meet flammability requirements without flame retardants in these products, and consumers can look for a label to see if these products do or do not have flame retardants added.

Q: You mentioned that no scientific data suggested there was a reason to not treat OFRs as a class. Can you please expand on this statement?

A: To clarify, no chemicals in the list of 161 flame retardants that we used to define the class had sufficient data to show that they did not share the hazards of better studied organohalogen flame retardants in the class. There are a lot of organohalogen flame retardants that we know are being used in foams from various publications. But we don't have enough data to show that they are safer than the flame retardants we have more data for and that are hazardous. We aim to prevent regrettable substitutions, so we don't want to allow flame retardants that are not well understood to be utilized and then find out later they are carcinogenic, persistent, or bioaccumulative. The law asks us to look for alternatives that are less hazardous. Instead of looking through the lens of the National Academies of Science 2019 report,[7] we are not doing a risk assessment. That means differences in the mechanism of hazard are less concerning to us as long as there are hazards that are concerning to us. We're not trying to conduct a cumulative risk assessment where everything needs to go through the same mechanism of action for toxicity. We're looking at whether there is evidence that any within-class chemicals are actually safer, and we don't see evidence of safer chemicals in this class. The alternative we are assessing is flame retardant free foam. Therefore, we are not assessing a safer flame retardant chemical, but rather the option of not adding flame retardants into the product at all, and meeting fire standards in other ways if necessary.

Q: You mentioned over 500,000 locations—does this include schools (it sounds like yes, school gymnastics programs)? Would the school districts be required to replace their foam pits, or would they only need to purchase non-flame retardant foams? This would be a hardship for schools.

A: The 500,000 refers to pit cubes in Washington, so the number of facilities is much lower, and that estimate can be found in the priority products report. We don't have any potential regulations crafted yet because we're still looking for safer alternatives, so this is a hypothetical answer. But this feedback is useful for us. We are launching a swap-out program[8] that would provide incentives to help schools and other programs make this switch if they chose to. We don't require replacing products. If we do a restriction, it would only be on new purchases, not on the foam currently in the facilities. Foam pits degrade over time, so there is a cycle of replacing the foams in the pits on a semi-regular basis, even if they didn't participate in the upcoming swap-out effort.

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[5] https://ecology.wa.gov/CSPA

[6] https://ecology.wa.gov/Regulations-Permits/Reporting-requirements/Reporting-for-Childrens-Safe-Products-Act/Chemicals-of-high-concern-to-children

[7] https://www.nap.edu/catalog/25412/a-class-approach-to-hazard-assessment-of-organohalogen-flame-retardants

[8] https://ecology.wa.gov/Waste-Toxics/Reducing-toxic-chemicals/Product-Replacement-Program/Recreational-foam

Q: There are likely building code requirements at play here too. The code would likely need to be changed to allow for non-FR foam to be installed on walls, etc.

A: We're still trying to figure out how the building and fire codes apply to these items. It's our understanding from conversations with a few local fire departments and with the fire marshal's office, that nothing in the building code in Washington state requires the use of flame retardant containing foam. The building code considers foam the contents of the building, and does not include a lot of specifics about the items that are allowed to be used inside. In most cases, we're finding that the wall pads are covered, and don't appear to have flame retardants in the foam. For some of the fire resistance standards referenced in the code (of which we don't know many, we still need to identify more), it seems they can be met without flame retardants in the foam. If you have input or information to help us understand that, we welcome it.

Q: Would there be some guidelines for removing the flame retardant containing dust?
Q: This question does not directly relate to possible restrictions, but, given that pit cube dust may contain OFRs, are you developing (or is there existing) guidance on how, properly, to clean pit cube dust in gyms and similar facilities?

A: There could be! There are studies that replaced the foam in the gym, and in those they mentioned how they cleaned dust. It would make sense for us to put together information to communicate effective ways to reduce the flame retardants not only in the foam, but also in the dust. We have resources to create educational materials and outreach materials, and having our stakeholders share with us what's unclear and what additional types of resources would help is really beneficial to us. We plan to create some supplemental materials that address methods to reduce contaminated dust in the facility, since we know it's an exposure route for people.

Q: Would ventilation help, too? For larger facilities? Not just opening doors or running fans, but filtration systems?

A: Yes. Ventilating and keeping air moving, not just with fans, but opening windows to replace air, can reduce contamination in the indoor air and dust. While we implement the first cycle of this program over 5-years, one thing we're aiming to do is pair it with a public outreach campaign to create resources to help consumers buy safer products and protect themselves from the toxic chemicals already in products. Questions you have about that are welcome, and we're always willing to help you identify resources or create additional resources for you. In terms of filtration, the recommendation is to use vacuums with HEPA filters to remove dust with contaminates. We're not sure whether air purifiers with HEPA filters have been tested for this application, but we could look into providing some guidance around that as well if it would be useful.

Q: Have you reached out to National Fire Protection Authority (NFPA) for guidance on fire safety standards? They may be able to assist.

A: Great suggestion. We have not reached out directly to the NFPA. We met with the entity in our state (the State Building Code Council) that interprets the code from the NFPA and the International Code Council to help municipalities in Washington understand what's required of them in terms of fire codes. Going broader to discuss with the NFPA would likely be helpful as well, so we appreciate the suggestion. We'll be continuing this outreach and aiming to get in touch with additional stakeholders in this area to determine the facilities in which flame retardant free foam is feasible.

Q: Would you want to clear vinyl covers for phthalate content prior to recommending them as flame retardant barriers?

A: Ideally, yes. We did find some products with vinyl covers that are marketed as phthalate-free. Within the product category, we're actually looking at the polyurethane foam, not the cover, so the assessment is focused on whether or not the products have flame retardants. But that's certainly something we could mention in outreach—when buying these products, it's helpful to have awareness of a few different potential chemicals of concern. When we look for safer alternatives, we're looking at whether the chemicals used to replace priority chemicals are safer than the priority chemicals. The vinyl cover didn't change between the alternative (flame retardant free foam) and the product with added flame retardants. So while we would like for a phthalate-free vinyl or other safer coverings to be used, it's a little beyond the scope of the alternatives analysis in this context. We want to promote products that are as safe as possible, but we have to scope to look at the chemicals used specifically to replace priority chemicals.

Q: Does the literature that you would provide include health hazards? Hormone disrupting chemicals specific impacts?

A: Assuming you are asking about guidance to reduce toxic chemical exposure, we can absolutely incorporate health hazard information into those resources. That's why we are grateful that we implement this law in partnership with Department of Health. Their staff has expertise on the human health hazards associated with these chemicals, which makes our collaboration beneficial.

Food and drink can linings questions and answers

Q: Does Chapter 70A.335 RCW apply to BPA in water bottles too?

A: This restriction on BPA only includes sports bottles that are sold in retail settings without liquid inside them. It does include a number of children's products, but single use water bottles would not be within the scope of Chapter 70A.335 RCW.[9]

Q: I suspect the answer is no, but did the recent Can Manufacturers Institute (CMI) study measure any bisphenols other than BPA (or total bisphenols) used in can linings?

A: You can find the study on the CMI website.[10] They did find some non-BPA based epoxy in some can linings, which CMI told us was the TMBPF-based can lining. That was the only other bisphenol they found, but they weren't measuring concentration, it was using Fourier Transform Infrared (FTIR) Spectrometry, which just measures presence or absence of the chemistry in the lining.

[9] https://app.leg.wa.gov/rcw/default.aspx?cite=70A.335
[10] https://www.cancentral.com/media/publications/cmi-washington-state-market-basket-report

Q: Are there any data gaps related to TMBPF that you need or want to fill before completing your evaluation?

A: We're waiting for persistence data on TMBPF. It was scored as high for persistence in the GreenScreen® hazard assessment we have. That was based primarily on modeling, so we're waiting to assess some real-world data to see if it is still scored as high for persistence. One challenge we have with the TMBPF assessment we're currently looking at is that the assessment for developmental toxicity is based on a surrogate for TMBPF, specifically TMBPA—and we know these two chemicals have differences in endocrine activity, so it may not be the best surrogate, but we don't have data on another one. We're hoping to get input from stakeholders about the risks versus the benefits of using another bisphenol, and whether they do think it is a safer alternative (assuming it is a Benchmark-2 chemical and is safer than BPA).

Q: Can the recommendation to address can liners include recommending either glass liners or going back to jars and bottles?

Q: What about alternative materials? Glass?

A: Glass is certainly an alternative to using liners in some cases, and we're leaving our recommendations around alternatives open. In the case of our requirements to find a safer alternative, it's not a main alternative we can use. If there were no chemical alternatives to can liners available, we would be hard pressed to say that it's feasible to require the entire industry to shift to not using metal cans just because glass jars are available. That said, it's a feasible alternative in specific instances that we can recommend.

Q: Not good enough. I don't like the idea of Benchmark-2 chemicals in my food cans! Why can't glass or other materials work in these applications?

A: We hear your concerns around Benchmark-2 chemicals, and this is a challenge for our program. We approach safer as a spectrum, with the idea of moving away from Benchmark-1 chemicals toward Benchmark-2 chemicals. Here is the challenge: If we set the bar too high, we can't take any steps forward. We have to set it high enough to improve, but not so high that we can't move forward and away from the Benchmark-1 chemicals. Regarding glass, we didn't mention it during this presentation and it's something we should've included. Glass is a feasible alternative in some instances. But to reiterate, we're not comfortable saying that in all of these instances, it is the only safer alternative needed. For example, with food cans, we haven't identified any safer alternative chemical linings, and we wouldn't be comfortable saying that since you can sell food in glass jars, no safer can liners are needed. It's a large industry, and the changes necessary to switch to glass would be too significant. We appreciate further input—if you believe that because glass is feasible in some cases, it is a sufficient safer alternative, that's useful feedback.

Q: Are food liners needed for all kinds of cans?

A: We would appreciate any input can manufacturers attending want to share. But yes, it's our understanding that any food or beverage in a can will react with the metal in a way that is not desirable and could change the taste or eventually deteriorate the can.

Q: What about lids that are lined, but not necessarily on a metal can or bottle? Are those within the scope of the program?

A: We have not assessed the metal lids that go on glass or other types of containers. We're not certain whether they would meet the definition of a food or drink can. Since our product category is defined as can linings, I don't know whether we have the authority to look at that. At this point, we haven't identified any safer alternatives for those types of products.

Q: On the issue of aerosol cans, you said you don't see any safer alternatives. But if the formulation of the liner is the same as the formulation of the liner for a can you have found alternatives for, would that be not applicable? If industry can't demonstrate why an aerosol can needs to have a different liner, that would be an argument that there is a safer alternative.

A: Stakeholders told us that one type of lining does not apply to another type of product. So the aerosol cans would not use the same liners as the other cans. We're approaching it from the other perspective—not that industry needs to prove that it won't work, but that we may need to show that they are used in the other types of cans. We've heard that requirements for the liner are strict for the specific product. We explored the similar use argument as a team. We noticed for some can linings, the certification level for Cradle to Cradle™ was different based on different applications, such as for the lid versus the body. That could mean changes in the formulation between the two types of applications. We're still exploring the similar use argument, but that's one reason why we didn't present today that the uses were similar. If you have an acrylic certified gold for the body but only bronze for the lid, that suggests when changing applications, they have to make a change that could influence the certification level. If they have to change the formulation, how do we know it is not also going to change the safety?

Q: Need to educate the public to BPA's [presence] still in food cans—and labeling on cans that these chemicals are in the liner—so consumers can make different choices?

A: Regarding labeling, requiring a label on a product is not something that's within the scope of our authority. While I think many of us would agree that labeling can help consumers make more informed choices, it's not a proposal our program would make for regulations in Washington. Regarding public education, we share your perspective. When we share information with the public regarding what can be found in consumer products, the feedback we often hear is a need for information to protect themselves and their families. We're trying to coordinate a public education campaign in conjunction with this program to help empower the public to purchase safer products. The Department of Health has materials specific to BPA,[11] and we can continue to expand on those. We welcome feedback about what information you can't find, so we can either help you identify resources or prioritize including that information in our own outreach.

Q: Eden used oleoresin when they switched from bean cans to tomato cans. Did you look at this?

A: Thanks for this input. We did look into this switch and tried to find more information, and we did contact Eden. It's our understanding that they switched back and forth between different products, but we haven't been able to get more information about the oleoresin. If you have a contact at Eden you would be willing to connect us with, we would love to look into that in more detail.

[11] https://www.doh.wa.gov/YouandYourFamily/HealthyHome/Contaminants/BisphenolA

Q: How long will it be before materials are available?

A: We are working on them right now. We started with PFAS[12] and flame retardants,[13] with more to come. We will continue with the other chemical classes we are focused on. We're translating them into a number of different languages to reach different communities in Washington. We're also trying to identify which communities have higher exposure to toxic chemicals and potentially prioritize reaching out to those communities first. If you have feedback about what resources are helpful, we encourage you to share it, and we can prioritize those resources.

Q: Metal thermoses can be metal lined—what if food cans could be made similarly?

A: We are not completely familiar with how metal water bottles are lined, but it relates to the timeframe and the treatment of food. Food has to be heated and pasteurized and has to last for two years—the normal expiration date on canned food. We're not certain you could say the same for a metal thermos, but we will look into this further.

Q: Quality of metal to resist the food interaction? Why do foods need to have a shelf life of 2 years?

A: As some stakeholder input suggested, the thermoses would be stainless steel and likely cost prohibitive. The reason people want canned food is often because it's inexpensive and lasts a long time. Customers expect it to last two years. That's not something that's within the scope of our program to change, but we appreciate your input because it's an interesting thing to consider.

Q: People pay more for organic food, why not stainless cans? There would still be the lower quality cans as well...

A: We're concerned about pricing specific populations of people out of using specific products. It tends to be low-income populations who consume canned food as a higher proportion of their diet compared to higher income populations. Significantly changing the cost structure of something is not our goal. We're aiming to use safer alternatives when they are available and we can. We identify whether products are feasible and available by considering whether they are already in use. If manufacturers are using the alternative, it must be cost effective. We wouldn't be seeing food offered for sale if the can lining or the storage was prohibitively expensive. While there will be some price variability, we base our evidence on current use. So when we look at stainless steel cans or alternatives that are not in use, the questions are different. We're trying to focus on alternatives that are available because we see them on the shelf.

Q: If a viable alternative chemical is identified, will all manufacturers be able to use it? Even if it's proprietary or production is patented?

A: Our job is to identify alternatives that are feasible and available. Our regulations, if put into place, would not require the use of the specific alternative chemicals we identified. We would encourage manufacturers to use them, but we are only prohibiting the use of the priority chemical. It also depends on what level manufacturer you are. For food can manufacturers, there's nothing preventing you from using any of the lining chemistries that we identified as safer. Can liner manufacturers would have to address the specific chemistries in the lining. Any potential regulation would not require manufacturers to use a specific chemistry or certification.

[12] https://apps.ecology.wa.gov/publications/SummaryPages/2004043.html
[13] https://apps.ecology.wa.gov/publications/summarypages/2104026.html

Q: How many unshared chemical liners have you run into? How many chemical hazard assessments for chemical liners have been shared with Ecology?

A: We have not evaluated any confidential business information. We have a process for keeping proprietary information confidential,[14] so if any companies want to share information with us, we'd love to collaborate. All the safer chemistries we identified were through the Cradle to Cradle™ certification.

Q: Can't you take a can and analyze the ingredients?

A: Ecology has a product testing program[15] to analyze the chemicals in consumer products. We can test what's in the product, to measure BPA concentration for example. But we cannot identify untargeted chemicals that we don't already know are in the product. Plus, the program has limited resources to test certain products. Right now, we are conducting product testing studies on printing inks and electric and electronic enclosures. We're relying on existing hazard assessments and other methodologies that have evaluated the contents of food and drink can linings to understand the hazards of different alternatives and whether they are safer. But we welcome feedback if you have input about products we should prioritize testing.

Q: Why can't the Cradle to Cradle program [take a can and analyze the ingredients] and make it [available] for the general public?

A: That's why we're relying on the Cradle to Cradle™ program. Some manufacturers of alternative beverage can linings submitted their products to Cradle to Cradle™ for assessment. That's how we can leverage that existing certification program to understand what's in the products. But we can't require manufacturers to go through a product certification process. It's a voluntary action they're taking because they're making an alternative, and the certification adds credibility that the product is safer. Plus, product testing costs money, and resources are limited to conduct the testing.

Q: NCIS uses a mass spectrometer. If it does have some of the chemicals, wouldn't that be a step instead of waiting?

A: There are a lot of different ways we can gather information. Unfortunately, we have limited resources for testing in the program, so we can't broadly test products. Further, we have strict data quality requirements at Ecology to use the data. Those combined with the timeframe for this program make it challenging to do testing.

Q: What about a national budget to pay for testing?

A: We are not aware of a funding mechanism set up for that. Our program is funded through resources from the Washington State Legislature. One of the best tools we have is chemical transparency—anything we can do to encourage or require transparency is helpful. The building sector has made a lot progress in this area. That's really the most efficient way for us to get information about what's in products, especially given the often complex formulations.

[14] https://www.ezview.wa.gov/Portals/_1962/Documents/saferproducts/CBI_Process_SaferProductsWA.pdf
[15] https://ecology.wa.gov/Research-Data/Monitoring-assessment/Consumer-products-testing

All product categories overview questions and answers

Q: What product testing is needed for electronics? Is the scope for the study publicly available?

A: It's aimed at supporting what we know. We're considering a range of products that could contain halogenated flame retardants and looking for some of the organophosphate alternatives. It was more to supplement research we've already identified. The study is not published online yet, but get in touch with us and we will try to connect you with more information about the scope. We're also looking at some of the flame retardants that are on TCO's positive list of electronics[16] (that may or may not have TCO certification), so we're pairing that with the study to potentially identify other safer alternatives.

[16] https://tcocertified.com/product-categories/