January 22, 2021

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Subject: Comments on Washington state Draft PFAS Chemical Action Plan of October 7, 2020

Dear Ms. Makarow,

Thank you for the opportunity to comment on the Draft Chemical Action Plan (CAP) on per and poly-fluoralkyl substances (PFAS) published October 2020. We commend the Washington State Departments of Ecology and Health for their commitment to advance protections for communities and the environment from the entire class of PFAS chemicals. We offer the following comments and recommendations for the final version of the PFAS CAP.

Overall, we ask that Ecology:

- Identify safer alternatives and ban PFAS in products beginning in 2025. Do this by expanding the first round priority product list under the Safer Products for Washington law to include all textiles, cleaning products and sealers, and personal care products as priority products. Of particular concern is the inclusion of apparel in the category of textiles.
- Fully implement Washington state's ban on PFAS in paper food packaging.

1. Expand the first round priority product list to identify safer alternatives and ban uses of PFAS by 2025.

Eliminating the use of PFAS in products is a crucial strategy to reduce human and environmental exposure to this harmful chemical class. Ecology should take action to reduce the largest sources of PFAS by declaring all textiles, cleaning products, floor waxes and stone/wood sealers, and personal care products as priority products under the Safer Products for Washington law so that the search for safer alternatives begins now and bans can be put in place by 2025.

Recommend banning the use of PFAS in all textiles, including apparel.

The PFAS CAP should recommend banning the use of PFAS in all textiles. Ecology should pursue this action starting now in the first round of implementing the Safer Products for Washington law. The current plan only identifies carpets, rugs and leather textile furnishings and after-market treatments as the first set of priority products, leaving major textiles like apparel to a later date. The agency should

address all textiles in the first round, expanding its priority product designation to include apparel, including firefighter personal protective equipment.

As recognized in Ecology's Priority Consumer Products Report to the Legislature of July 2020, PFAS are used to provide the same function across all textiles, that of water and/or stain protection. The Safer Products for Washington law directs Ecology to identify priority products that are significant sources or uses of priority chemical classes, of which PFAS is one. **Apparel is a significant textile use of PFAS.**

In an October 2020 analysis of PFAS uses in textiles, upholstery, leather apparel, and carpet (TULAC) in the European Union (EU), the two key dominant TULAC sectors are estimated to be home textiles (50 – 53%) and consumer apparel (34 – 39%),[i] a highly significant amount. These are the percentages of total estimated PFAS in metric tons (tonnes) (1 metric ton = 2204.62 lbs.) used in textiles sold on the EU market annually - both manufactured in the EU and imported). This analysis also concludes that the dominant life cycle stage for PFAS emissions into the environment is from frequently washed textiles; the next most significant is treatment of textiles before sale.[ii] This highlights the importance of wash-out from textiles during the laundry cycle and release of contaminated wastewater to sewer.[iii] In addition, this report concludes that a transition period for restrictions to be put in place could be around two years for consumer apparel and home textiles.[iv]

Addressing this category is also important because apparel likely to contain PFAS is a growing market. Popularity of performance and athleisure wear in the apparel market is increasing with consumers' increasing interest in casual and active lifestyles. And due to Covid-19, with more people working from home, the growth is even greater. Typical performance-wear apparel includes yoga pants, lightweight jackets, pullover tops, and running pants, and frequently contain PFAS chemicals for water resistance and breathability. The US athleisure market value is expected to grow from $155.2 billion in 2019 to $257.1 billion by 2026.

Another important sub-category of textile use for PFAS is Firefighter Personal Protective Equipment (PPE). Due to existing law requiring disclosure of PFAS in firefighter turnout gear, the agency already has data confirming use of PFAS. Manufacturers including Tencate Fabrics, FireCraft Safety Products, Fire-Dex, CrewBoss, Globe Manufacturing, Lion Protects, Shelby Specialty Gloves, and True North Gear provided information to the agency that it uses PFAS in turnout gear and other PPE. This information should be added to the CAP.

PFAS-treated apparel is a significant source of exposure, especially for children. PFAS have been demonstrated to migrate from children's apparel into artificial saliva.[v,vi] Since babies and children often mouth apparel items, if the items contain PFAS it may be ingested. A 2015 study found that in children, the frequency of wearing waterproof clothing was among significant positive predictors of perfluorinated compound blood serum levels.[vii] The draft PFAS CAP presents data from a 2009 EPA study,[viii] an analysis of 116 articles of commerce purchased in 2008 from retail outlets in the US, which concluded that in typical American homes with carpeted floors, pre-treated carpet and commercial carpet-care liquids are likely the most significant PFCA sources. However, the authors also include apparel as a potentially important indoor source.[ix] And again, babies and young children will mouth their outdoor apparel during outdoor activities when the apparel is most typically worn.

Babies' and children's bibs are an apparel item that often contains PFAS. In a study done on apparel purchased in North America (Canada, USA, and Mexico), 14 out of 29 (48%) of bibs tested contained

PFAS chemicals.[x] Babies and young children are likely to mouth their bibs, and children's caregivers will often scoop food fallen onto bibs and offer it to the child to eat.

PFAS use in apparel is a source of occupational exposure for firefighters, apparel workers, military personnel and healthcare workers.

- Cancer is now the leading cause of death among firefighters, and they have higher rates of cancer than the general population.[xi] Reducing exposures to chemicals such as PFAS are a priority and PFAS turnout gear is worn regularly on the job and new studies indicate exposure for firefighters.[xii]
- A study of fluorotelomer alcohols (precursors of PFCAs) in indoor workplace air found the highest levels in shops selling outdoor apparel, indicating outdoor textiles to be a relevant source.[xiii] This study also demonstrated the emission of FTOHs from outdoor apparel.[xiv]
- A 2014 German study reported that PFAS exposure for people working in outdoor clothing stores receive exposures that could exceed dietary intake estimates. [xv] This conclusion was reached in the above-mentioned study as well.[xvi]
- PFAS chemicals are also commonly used in textiles in health-care settings. This includes textiles used for disposable hospital gowns, surgical gowns and masks, and hospital uniforms, creating another workplace exposure. Five out of five samples (100%) of treated nonwoven medical garments (which includes disposable hospital gowns, surgical gowns, etc.) that were tested in an EPA study contained FTOHs.[xvii]
- A report for Defence Canada provided instances of military personnel using PFAS-treated apparel.[xviii]

Finally, there are many other examples of other work clothes that can be purchased for various jobs. For example, Sears' Craftsman brand includes work wear with Teflon and Chemours (formerly Dupont) promotes apparel products on its website (January 2021) that have a Teflon finish.

Aftermarket spray treatment products are used for all textiles, including apparel. Aftermarket carpet treatments and waterproofing sprays are included in the draft PFAS CAP and have been identified by Ecology as a Priority Consumer Product. These products are used to treat apparel, as well as carpet and home furnishings, as noted in the Priority Consumer Products Report. For example, Scotchgard (which contains PFAS) product information recommends its use on textile home furnishings as well as apparel. This is a reminder that home furnishing textiles and apparel textiles that are treated with PFAS have significant overlap. These spray treatments can also be a source of exposure to babies and young children not only when the products are used in the home, but also when a spray bottle is spilled, or a child inadvertently handles the bottle.

Safer alternatives can be used on all textiles. Many safer alternatives to PFAS in apparel are available. A directory of PFAS-free apparel products has been compiled by Green Science Policy Institute and is available at: https://pfascentral.org/pfas-basics/pfas-free-products/. The agency has already identified some of the alternative chemicals and materials in its report to the legislature that would apply to all textiles, including apparel.

2. Fully implement Washington state's ban on PFAS in paper food packaging.

In March of 2018, Washington state's legislature voted to ban PFAS chemicals in paper food packaging.

Ecology has fallen behind in the timeline laid out in the act; the required alternatives assessment was supposed to be finished by Jan. 1, 2020, and the ban be effective by Jan. 1, 2022. The final alternatives assessment has not been issued. We have identified many PFAS-free alternatives. Ecology should fully implement the ban on PFAS in all paper food packaging.

Thank you again for the opportunity to comment. Please contact Cheri Peele at Clean Production Action if you have any questions at 781-391-6743.

Sincerely,

Cheri Peele
Program Manager, Chemical Footprint Project
Clean Production Action

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