



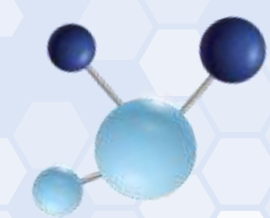
PFAS in Consumer Products, Food Service & Facility Maintenance: Promoting Awareness & Alternatives

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What is NEWMOA?

- Northeast Waste Management Officials' Association
- Non-profit, non-partisan interstate association
- Solid waste, hazardous waste, waste site cleanup & pollution prevention programs
- CT, ME, MA, NH, NJ, NY, RI & VT
- Formally recognized by EPA in 1986
- www.newmoa.org



Project Background

- USDA Grant focused on solid waste issues in rural, low-income areas to protect water resources
- Partners:
 - Northeast Kingdom Waste Management District in Vermont (NEKWMD)
 - VT Dept. of Environmental Conservation (DEC)
 - NH Dept. of Environmental Services (DES)
 - Androscoggin Valley Council of Governments in Maine (AVCOG)
- Aimed to educate the public about the rising PFAS issue and how their actions could impact water resources



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PFAS in Consumer Products & Food Service Project

- Focused on consumer & commercial products and the impacts of PFAS on waste streams
- Purposes:
 - Educate the public, municipalities, and businesses on PFAS in products
 - Encourage the purchase of PFAS-free alternatives
 - Promote practices that reduce environmental release
 - Not to provide information on what to do with products you might already have



USDA PFAS in Consumer Products Project



05

Factsheets

Covering:

- Why Care about PFAS
- Clothing & Other

Textiles

- Personal Care Products
- Outdoor Recreation
- Foodware & Packaging

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Outreach Events

2023:

- 6 farmers markets in ME, NH & VT

2024:

- 5 webinars for food service & others
- Site visit to nursing home
- Street Fair in VT

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Guide for Food Service

A Guide that shows what items might contain PFAS & how establishments may contribute to human exposure & contamination of the environment

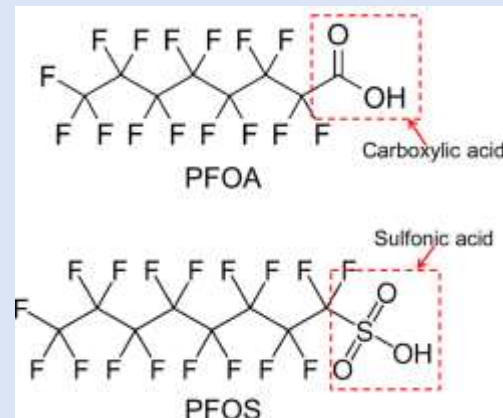


Chemistry & Toxicity: Health and Environmental Impacts

What are PFAS?

PFAS stands for Per- and Polyfluoroalkyl substances

- A group of thousands of synthetic chemicals used in hundreds of types of products
 - Water-resistant/waterproof
 - Oil/grease resistant
 - Stain resistant
 - Resistant to friction
- Known as “forever chemicals”
- Main characteristic: Fluorine attached to Carbon
 - The number of carbons determines the length of the PFAS (C6, C8, etc.) and if it is considered a long-chain or short-chain

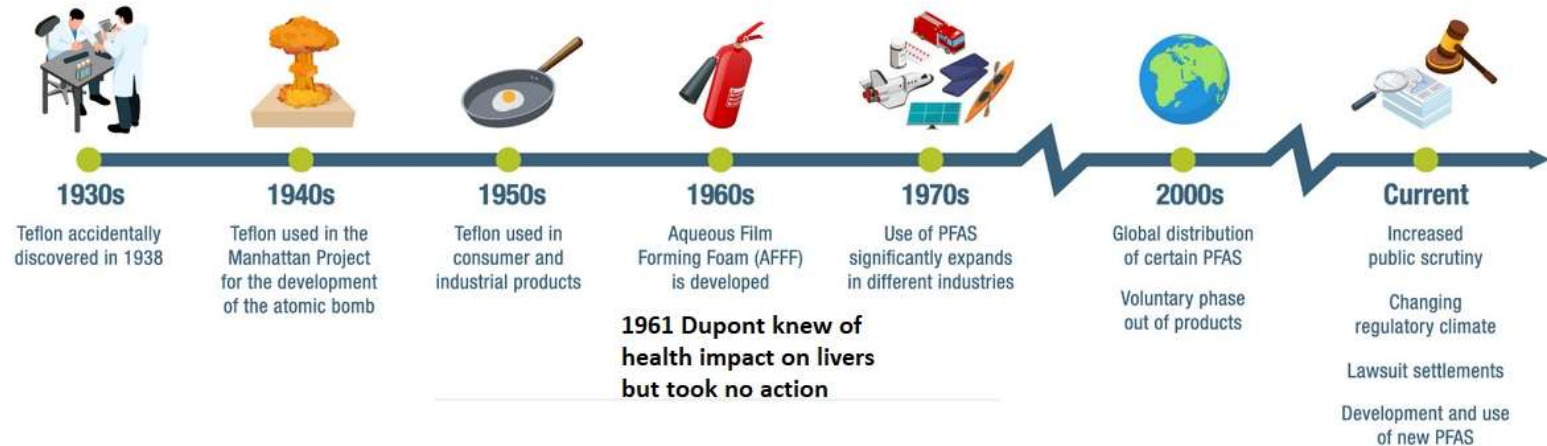


Most people think if something is for sale, that means it's safe...(but that's not true)

How did PFAS develop and evolve?

PFAS Development ...

...and Evolution





Why are PFAS so Problematic?



The carbon-fluorine bond is NOT natural	<ul style="list-style-type: none">• Created with tremendous heat and pressure• Per (fully) fluorinated PFAS do not breakdown – poly (partially) fluorinated PFAS breakdown only into the fully fluorinated portion which then doesn't change• Accumulating all over the planet & in the blood of virtually all animals & people
PFAS impact human & environmental health	PFAS impact the health of humans, animals, fish and other living beings even with exposure at relatively low levels
PFAS have polluted water supplies	<p>Public water supplies – must test for PFAS - 17 in Vermont and approximately 30 in New Hampshire have exceeded current standards</p> <p>Private wells – can be contaminated from a variety of sources – including septic systems</p>

PFAS were not regulated chemicals... until recently!



PFAS Toxicity and Health Effects

PFAS are Linked to a Multiplicity of Adverse Health Effects



**Reduced Immune
System Function**



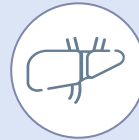
**Increased Risk of
Pre-eclampsia in
Pregnant Women**



**Increased
Cholesterol Levels**



**Increased Thyroid
Disorders and Other
Hormone Disruption**

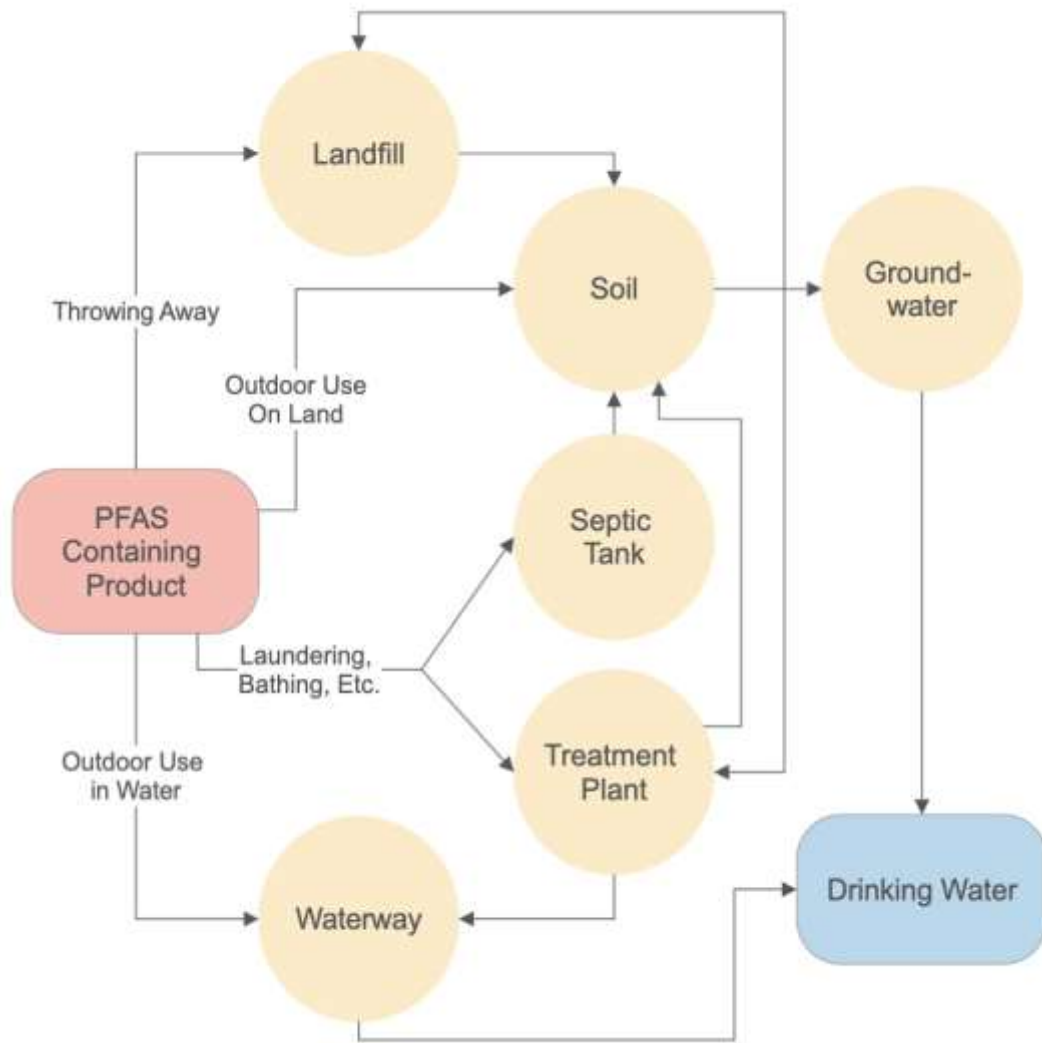


**Increased Risk of Liver,
Kidney, Prostate &
Testicular Cancer**



How PFAS in Products Might Impact the Environment


- PFAS do NOT breakdown – they just move around
- PFAS can get into groundwater or surface water used for drinking water & lead to significant exposure
- Note: there are other sources of environmental contamination:
 - Firefighting foam
 - Manufacturer use
 - Air deposition
- BUT – studies have shown that wastewater from homes has significant amounts





Vermont DEC Wastewater Study

In 2021, DEC worked with the City of Essex Junction and Town of Middlebury to characterize residential, commercial, and industrial PFAS sources entering their WWTFs and found:

- More PFAS, by mass, were measured in wastewater originating from residential communities than from commercial or industrial discharges in these municipalities
 - Industrial facility discharges contained unique PFAS but were not a significant source of PFAS to the WWTF, accounting for < 1% of the total mass of PFAS entering the WWTF
- 

What Products Often Contain PFAS?



Water-Resistant/Waterproof

Oil/Grease-Resistant

Stain-Resistant/Stain-proof/Stain Release

Slick and Increase Durability



Factsheets





Overview Factsheet: Why Should I Care?

Key Takeaways:

- Factsheet addresses exposure, health effects and potential environmental impact
- Children can experience heightened exposure to PFAS due to hand to mouth ingestion and close contact with carpeting/rugs causing inhalation of PFAS-containing dusts

What You Can Do:

- Check labels, read ingredients, and be aware that PFAS are considered proprietary ingredients and manufacturers often do not disclose their use



***Want to limit PFAS exposure?
Reduce the number of PFAS-containing products you purchase!***

Four Product Category Factsheets



PFAS
in Clothing & Other Textiles:
What You Need to Know

Per- and Polyfluoroalkyl Substances (PFAS) are a group of human-made chemicals that build up over time in the environment, animals, and humans and can be harmful to health. Understanding which products are likely to contain PFAS and how to avoid buying them helps reduce your personal exposure and decrease the amount of PFAS entering the environment and entering our supplies. For an introduction to PFAS, visit the [What are PFAS & Why Should I Care?](#) factsheet.

Textiles primarily contribute to human exposure to PFAS from:

- Drinking water that is impacted from nearby PFAS-contaminated sources
- Breathing in particles coming from textile fibers, including fibers, carpets, and rugs treated with PFAS for stain resistance

A study¹ of PFAS in adult clothing found that 41 of the water-repellent and stain-proof articles tested were positive for PFAS. Another study² of children's clothing found that 70% of the clothing items tested, and 100% that were labeled as water- or stain-resistant, contained PFAS.



Many fabrics are treated with PFAS to achieve durability and water- and stain-resistant qualities. Key textiles meant to color in print, surface (e.g., carpet, rug). Examples of textiles that might contain PFAS include:

- Coating
- Finishing
- Waterproofing
- Waterproof & stain-resistant
- Upholstered furniture
- Flags & carpeting

Related Topics:

- In general, items making the following claims are likely to contain PFAS:
 - Waterproof, water-resistant or stain-resistant
 - Waterproof, waterproof or stain-resistant

When PFAS-containing clothing and other textiles are washed, some of the PFAS comes out into the wash water that is discharged from your home. If you have a septic system, the wastewater is discharged before ground where it can contribute the groundwater. If your home is on a sewer system, the wastewater plant discharges treated effluent into the environment.

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PFAS
in Foodware & Packaging:
What You Need to Know

Per- and Polyfluoroalkyl Substances (PFAS) are a group of human-made chemicals that build up over time in the environment, animals, and humans and can be harmful to health. Understanding which products are likely to contain PFAS and how to avoid buying them helps reduce your personal exposure and decrease the amount of PFAS entering the environment and entering our supplies. For an introduction to PFAS, visit the [What are PFAS & Why Should I Care?](#) factsheet.

Many foodware and food packaging are treated with PFAS to achieve durability and water-resistant qualities. Examples of foodware and packaging that may contain PFAS include:

- Reusable containers
- Paper plates & disposable containers
- Coated food packaging
- Bakery bags
- Food trays & foodware containers

When PFAS-containing foodware and packaging are used, some PFAS can transfer to food leading to direct consumption of PFAS. Note that higher temperatures and longer durations of time can lead to greater amounts of PFAS to food. Once PFAS-containing products are thrown away, they enter a landfill and/or incinerator, a pathway for PFAS to enter the environment. When PFAS-containing paper and fiber products are composted, PFAS residues in the compost and enter the environment when it is used.



Be Skeptical of PFAS-Free Claims

Some research indicates that packaging labels that say "lead-free" or "nickel-free" are not always accurate. Some products are PFAS-free, but others are not. PFAS-free products are not always labeled as such. Some products are PFAS-free, but others are not. PFAS-free products are not always labeled as such. Some products are PFAS-free, but others are not. PFAS-free products are not always labeled as such.

Notes of Thumb:

- In general, items making the following claims are likely to contain PFAS:
 - Waterproof, water-resistant or stain-resistant
 - Waterproof, waterproof or stain-resistant

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PFAS
in Outdoor Recreation:
What You Need to Know

Per- and Polyfluoroalkyl Substances (PFAS) are a group of human-made chemicals that build up over time in the environment, animals, and humans and can be harmful to health. Understanding which products are likely to contain PFAS and how to avoid buying them helps reduce your personal exposure and decrease the amount of PFAS entering the environment and entering our supplies. For an introduction to PFAS, visit the [What are PFAS & Why Should I Care?](#) factsheet.

Outdoor recreation products primarily contribute to human exposure to PFAS from:

- Drinking water that is impacted from runoff and deposition containing PFAS
- Eating game and fish from PFAS-polluted environments
- Breathing in and consuming dusts from facilities, weapons, and protection gear



Many outdoor products are treated with PFAS to achieve durability and water-resistant qualities. Examples of outdoor recreation products that might contain PFAS include:

- Boats
- Boat covers & boat products
- Boat gear & other outdoor clothing
- Boat hulls, outboard & inboard gear
- Tents
- Backpacks
- Waterproofing & protection gear

When PFAS-containing outdoor products are used, some of the PFAS can get up into the environment, polluting the soil and water. When gear is stored at home, some of the PFAS can get up into the environment, polluting the soil and water. When gear is stored at home, some of the PFAS can get up into the environment, polluting the soil and water.

Warning!

PFAS can be found in fish and game. Please check local fish and game for PFAS. PFAS can be found in fish and game. Please check local fish and game for PFAS. PFAS can be found in fish and game. Please check local fish and game for PFAS.

Notes of Thumb:

- Items that have a waterproof, water-resistant, or water-repellent claim are likely to contain PFAS.

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PFAS
in Personal Care Products:
What You Need to Know

Per- and Polyfluoroalkyl Substances (PFAS) are a group of human-made chemicals that build up over time in the environment, animals, and humans and can be harmful to health. Understanding which products are likely to contain PFAS and how to avoid buying them helps reduce your personal exposure and decrease the amount of PFAS entering the environment and entering our supplies. For an introduction to PFAS, visit the [What are PFAS & Why Should I Care?](#) factsheet.

Many personal care products include PFAS to achieve durability and water-resistant qualities. Products that might contain PFAS include:

- Cosmetics
- Shampoo & body lotion
- Deodorant
- Hair gel
- Hair care products
- Deodorant & shaving cream



Notes of Thumb:

- In general, items making the following claims are likely to contain PFAS:
 - Waterproof, water-resistant or stain-resistant
 - Waterproof, waterproof or stain-resistant

Ingredient Concerns

Some ingredients are common in PFAS-containing products. These ingredients are not always labeled as such. Some ingredients are common in PFAS-containing products. These ingredients are not always labeled as such. Some ingredients are common in PFAS-containing products. These ingredients are not always labeled as such.

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All factsheets can be found at www.newmoa.org/projects/pfas-in-consumer-products/



Be Skeptical!

PFAS-Free Claims

Some companies state that their products are “PFC-free” or “PFOA-free” or “PFOS-free”, but such statements only cover some specific PFAS chemicals and they are likely still using different PFAS in their products. Even if a website states a product is PFAS-free that doesn’t mean it is!

Also: PFAS are considered proprietary ingredients and manufacturers often do not disclose their use



Although one particular PFAS chemical (PFOA) was banned in cookware in 2014, other PFAS including PTFE are still used



Clothing & Textiles

Key Takeaways:

- Many fabrics are treated with PFAS to achieve durability and water- and stain-resistant qualities
- Examples of textiles that may include PFAS:
 - Clothing, Bedding, Tablecloths, Window & Shower Curtains, Upholstered Furniture, Rugs & Carpeting
- Textiles primarily contribute to human exposure from:
 - Drinking water
 - **Dusts**

What Can You Do?

- Don't buy textiles labeled as waterproof or water/stain/oil-resistant
- Look for untreated natural fabrics like cotton, linen, wool, hemp and silk
- Consider wood or tile flooring instead of carpet or opt-for carpet without water/stain/oil-resistant properties
- Try spot treating with plain soap rather than cleaning the full item

Since PFAS wash out over time, continue using products that have been laundered rather than purchasing new!



Foodware and Packaging

Key Takeaways:

- Many coated in PFAS to achieve water/oil/grease-resistance
- Examples that many contain PFAS include:
 - Nonstick Cookware, Paper Plate & Disposable Tableware, Coated Food Packaging, Bakery Bags, Pizza Boxes & Takeaway Containers
- Primarily contribute to human exposure from:
 - Direct consumption
 - Vapors from overheated cookware
 - Drinking water

What You Can Do:

- Choose cookware without a nonstick coating
- **Use reusable containers**
- If disposable is required, choose uncoated or wax-coated and products that DO NOT advertise oil/grease/water-resistant
- Only compost food waste – do not compost any containers or packaging that may contain PFAS

Nonstick cookware cannot be heated above a certain temperature!

Be Skeptical!



Green Messaging

Many molded fiber and recycled paper disposable tableware are being advertised as “compostable” but are treated with chemicals such as PFAS to achieve water-, and grease-resistant properties. PFAS can be mixed into the paper pulp during manufacturing and be present without an obvious physical coating.



Outdoor Recreation

Key Takeaways:

- Examples that many contain PFAS include:
 - Bike Lubricants, Boots/Shoes & Care Products, Rain Gear & Other Outdoor Clothing, Ski/Boat/Surfboard/Hockey Wax, Tents, Backpacks, Waterproofing & Protectant Sprays
- Primarily contribute to human exposure from:
 - Direct consumption from game and fish
 - Drinking water
 - Breathing in textiles, wax and protectant spray vapors, aerosols & dusts

What You Can Do:

- Use PFAS-free waxes
- Limit washing of Durable Water Repellent products
- Try spot cleaning with soap and water to minimize PFAS release
- If you must use PFAS-waterproofing products, use a rub-on product rather than aerosol
- Use PFAS-free boot & shoe care products

PFAS can be found in fish and game. Please check local 'Do Not Eat' advisories before consumption. Many bodies of water, fish, and game have not yet been tested!!



Personal Care Products

Key Takeaways:

- Long-lasting cosmetics are likely to contain PFAS – ex: sunscreen, mascara
- Examples that many contain PFAS include:
 - Cosmetics, Sunscreen & Body Lotion, Dental Floss, Nail Polish, Hair Care Products, and Cleansers & Shaving Cream
- Primarily contribute to human exposure from:
 - **Direct consumption from placing products in and near mouth**
 - Washed off our bodies & into wastewater – can affect drinking water

What You Can Do:

- Choose sunscreens and cosmetics without PFAS
- Avoid waterproof and water-resistant cosmetics
- Choose PFAS-free floss such as uncoated natural fiber floss
- Consider pressurized water flossing to limit chance of PFAS exposure and reduce single-use waste

Two PFAS formulations commonly found in sunscreens are “PAP” (polyfluoroalkyl phosphate esters) and “PTFE” (polytetrafluoroethylene) . Read the ingredients on the label to avoid PFAS!

Food Service Guide



PFAS in Food Service Guide



PFAS in Food Service Promoting Alternatives

What Are PFAS?

Per- and Polyfluoroalkyl Substances (PFAS) are a large group of human-made chemicals known for their heat-stable, friction-reducing, and water- and stain-resistant properties. PFAS have been added to many industrial and consumer products since the 1940s and there are thousands of different PFAS chemicals in use today. **PFAS are frequently called "forever chemicals" because they do not breakdown and build up over time in the environment, animals, and people.**

PFAS are used in many categories of products that a food service facility might use:

- **Food packaging** such as takeout & other disposable containers
- **Non-stick cookware**

- **Textiles** such as uniforms, tablecloths, napkins, and upholstered furniture
- **Carpets & cleaning**
- **Floor cleaning**, stripping & waxing.

Each of these is discussed further in this guide.

Understanding which products are likely to contain PFAS and how to avoid buying them helps reduce worker and customer exposure and decreases the amount of PFAS entering the environment and drinking water supplies.

POTENTIAL PFAS SOURCES FROM FOOD SERVICE





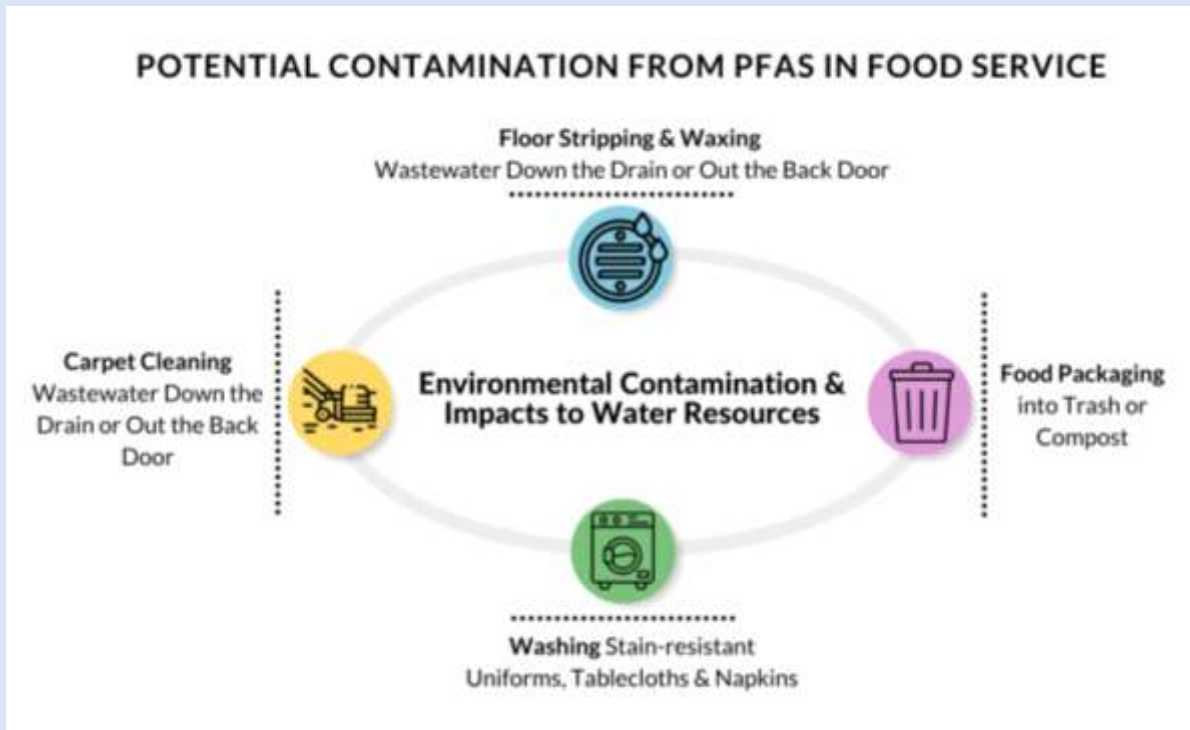
PFAS in Food Service: Potential Exposure

POTENTIAL PFAS SOURCES FROM FOOD SERVICE



Understanding which products likely contain PFAS and how to avoid purchasing them helps reduce worker and consumer exposure and decrease the amount of PFAS in the environment!

PFAS in Food Service: Potential Contamination



Wastewater and trash containing PFAS can lead to potential environmental contamination that impacts water resources. Choose PFAS-free cleaning methods and reduce use of PFAS products!

PFAS in Food Packaging and Cookware

- Many disposable dinnerware and packaging items are coated in PFAS to achieve water-, oil-, and grease-resistance
- PFAS can transfer from packaging and cookware to food



Note: Higher temperatures and longer durations of time can lead to greater amounts of PFAS in food



WA State Dept. Of Ecology Study

May 2021 PFAS in Food Packaging Alternatives

- Viable alternatives that meeting their strict human health and environmental impact safety criteria
- Similar technical performance, commercially available at a similar cost:
 - Wax-coated wraps & liners
 - Kaolin clay-coated & reusable plates
 - Reusable bowls
 - PLA Plastics & reusable trays
 - Kaolin clay-coated & reusable food boats
 - Uncoated paper pizza boxes
 - PLA-coated french fry cartons



Per- and Polyfluoroalkyl Substances in Food Packaging Alternatives Assessment

Developed under
Chapter 70A.222.070 RCW

Hazardous Waste and Toxics Reduction Program

Washington State Department of Ecology
Olympia, Washington

Revised May 2021, Publication 21-04-004



What You Can Do:

- Look for “No/Low F” Products in the list compiled by the Center for Environmental Health

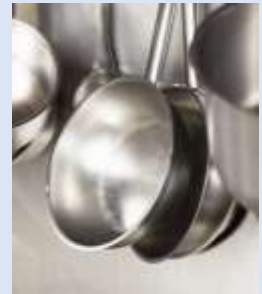
- Look for GreenScreen-Certified Products and BPI-Certified Compostable Products



- If not using only BPI-Certified Products, Compost ONLY Food Waste

- Choose Reusable Containers

- Use Nonstick-Free Cookware



- If Using Nonstick Cookware, Only Use Low-Medium Heat



When Disposable is the Only Realistic Option

- Choose disposable materials that are wax-coated or truly uncoated
- Choose products that do not advertise oil-, grease-, and water-resistant claims
- Avoid disposable products that consistently test positive for PFAS such as molded fiber products and molded recycled paper products
- Avoid products with listed ingredients containing “fluoro”





PFAS in Textiles and Exposure

- Examples of textiles that may include PFAS:
 - Uniforms, tablecloths, napkins, upholstered chairs, booths & other furniture
- PFAS may enter the environment:
 - Washing textiles = PFAS discharged into wastewater
 - Disposed in a landfill = PFAS enter the leachate
- Primary methods of human exposure:
 - Drinking water impacted by wash water
 - **Breathing in and consuming dusts from treated fabrics**



Note: The potential health impact from wearing PFAS-containing clothing while sweating in the hot conditions common to foodservice kitchens is unclear and further research is required



Textiles - What You Can Do:

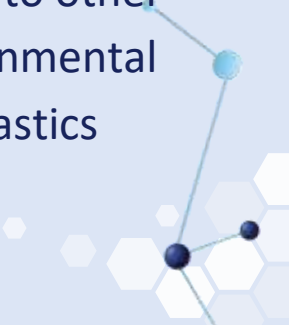
Choose wood furniture with cushions rather than upholstered furniture

Don't buy uniforms, tablecloths, napkins or other textiles labeled as water-, stain-, or oil-resistant

Consider replacing suspected textiles with untreated alternatives

Choose untreated natural fabrics such as cotton, hemp, or linen!

Avoid fabrics made of synthetic materials that contribute to other human health and environmental concerns such as microplastics



PFAS in Carpets, Cleaning and Exposure

- Multiple disposal pathways may lead to PFAS entering the environment:
 - Wash water disposed of out the back door = direct discharge of PFAS into soil & eventually water (note that this practice is most-likely illegal as well)
 - Wash water disposed of down the drain = PFAS discharged into septic system or wastewater treatment plant
 - Carpet disposed in a landfill = PFAS enter the leachate
- Primary methods of human exposure:
 - Drinking water impacted by wash water disposal
 - **Breathing in and consuming dusts from treated carpets and rugs**





PFAS and Carpet Cleaning



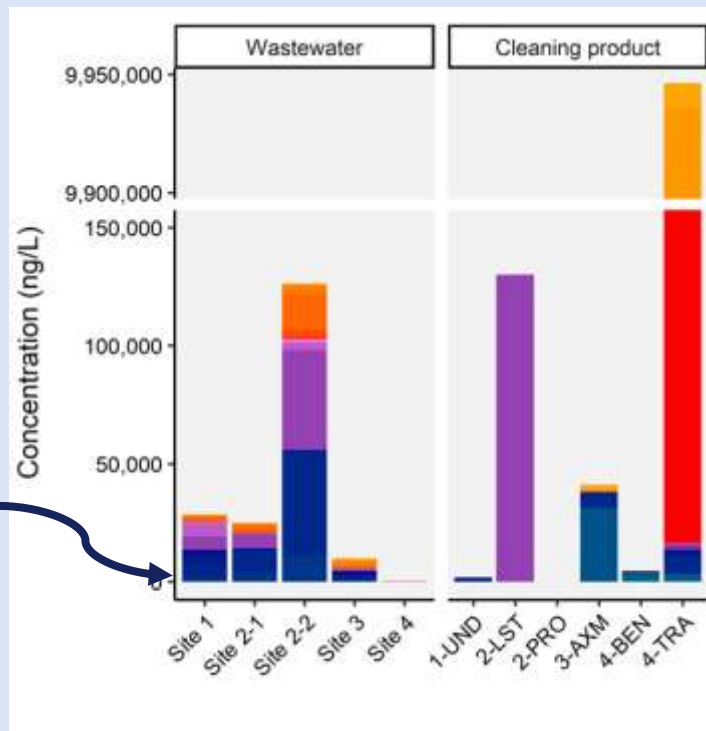
PFAS sampling at 4 carpet cleaning businesses in NH

- Cleaning products and wastewater
- 70 PFAS compounds

PFAS and Carpet Cleaning


- Up to 130,000 ng/L $\Sigma 70$ PFAS in carpet cleaning wastewater
- Up to nearly 10 mg/L $\Sigma 70$ PFAS in carpet cleaning products

Carpets, cleaning products, and wastewater can be substantial sources of PFAS.





What You Can Do:

1. Consider wood or tile flooring
 2. Opt for new carpet without water-, stain-, or oil-resistant properties
 3. Frequently vacuum carpet containing PFAS with a HEPA-filter
 4. Try to spot treat carpet/rugs rather than wash the entire area
 5. Make sure the carpet cleaning product does not contain PFAS:
 - Avoid products with “fluoro” in the listed ingredients
 - The only way to really know is to test
 6. Never dispose of wash water from carpet cleaning out the back door
 7. If on a septic system, try to collect & dispose of wash water (haz waste hauler or bring to WWTP)
- 



PFAS Exposure in Floor Stripping & Waxing


- Multiple disposal pathways may lead to PFAS entering the environment:
 - Wastewater disposed of out the back door = direct discharge of PFAS to soil & eventually water (note that this practice is most-likely illegal as well)
 - Wastewater disposed of down the drain = PFAS discharged into septic system or wastewater treatment plant
- Primary methods of human exposure:
 - Drinking water impacted by wastewater disposal
 - Levels in air might be concerning for worker exposure



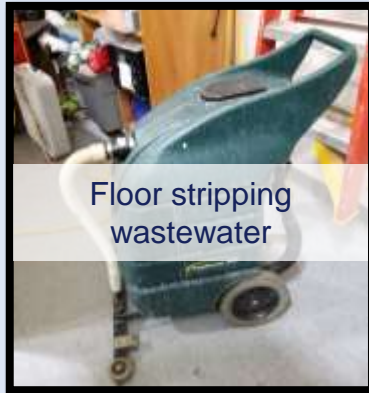


PFAS in Floor Stripping, Washing & Waxing

A NH DES Study at Four Schools (published in February 2024):

- PFAS found at high levels in wastewater from floor stripping **at all four schools**
 - PFAS lower but still significant levels in the wastewater generated from routine floor cleaning
 - Floor stripper and finish products were tested and found to contain high levels of PFAS
 - Disposal of wastewater from floor stripping and finishing are **likely to have contributed to the contamination of groundwater that the schools use for drinking water** (all four schools are on septic)
- 

PFAS and Floor Stripping & Waxing



PFAS sampling at 4 schools in NH during floor stripping/waxing

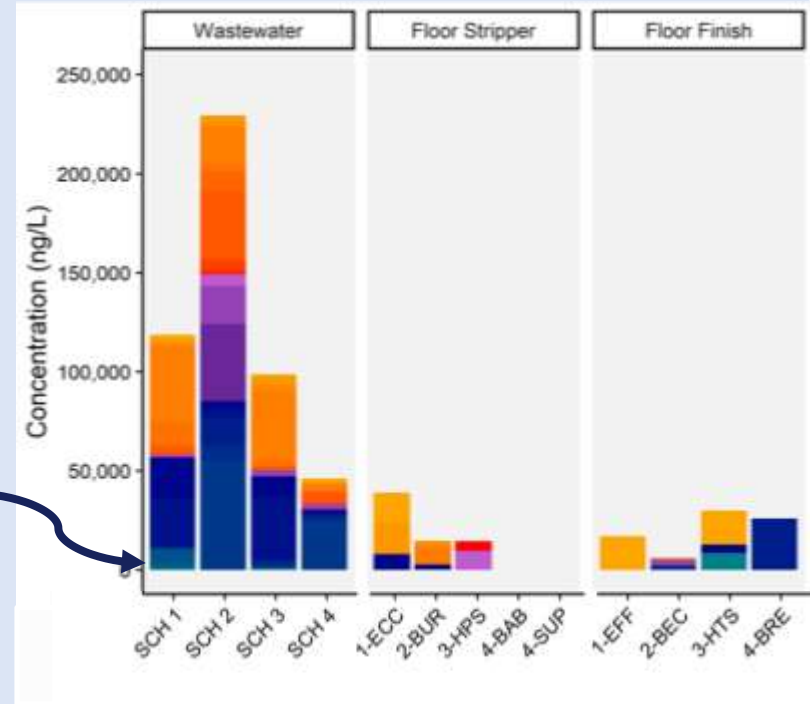
- Floor strippers, finishes, and wastewater
- 70 PFAS compounds

PFAS and Floor Stripping & Waxing

- Up to 229,000 ng/L $\Sigma 70$ PFAS in floor stripping wastewater
- Up to 39,000 ng/L $\Sigma 70$ PFAS in floor strippers and finishes

Floor strippers, finishes, and wastewater can be substantial sources of PFAS.

Groundwater
quality
standard





What You Can Do:

1. Avoid floor cleaning – dry sweep as much as possible

2. To the extent feasible, clean floors with plain water

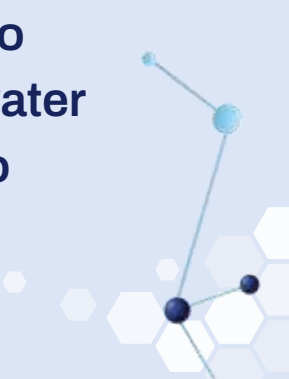
3. Make sure floor stripping, finishing & cleaning products do not contain PFAS:

- Avoid products with “fluoro” in the listed ingredients

- The only way to really know is to test

4. Never dispose of wastewater from floor stripping & waxing out the back door

5. If on a septic system, try to collect & dispose of wastewater (haz waste hauler or bring to WWTP)






NH Nursing Home

- In-person visit in early September 2024 – 4 resident “neighborhoods”
- Assessed:
 - **Food service** – generally no non-stick cookware, don’t use disposables, & uniforms/aprons don’t advertise stain-resistance – low concern for PFAS (although dishwasher rinse?)
 - **General operations & cleaning** – use off-the-shelf cleaning products (e.g. Spic n Span, Mr. Clean), bedding is cotton/poly blend, use smaller pads on beds/seating for mattress/furniture protection that are polyethylene laminate – low concern for PFAS (although laundry detergent?)
 - **Floor cleaning, stripping, waxing** - hallways, dining rooms, resident rooms
 - use a “restorer” weekly – a full strip & wax 2-4 times a year
 - expressed need to look “clean” for inspectors, residents and their families
- Collected samples for analytical testing: floor stripper, wax, & restorer
- Also testing 2 EPA Safer Choice list products: a floor finish & a floor wax



Bottom Line

- The best way to prevent releases to the environment & protect water supplies & human health is to stop using PFAS-containing materials
 - BUT – manufacturers often do not know and/or disclose that their items do contain PFAS
 - The only way to really know is to conduct analytical testing
- 



Lessons Learned & Takeaways





Project Challenges



- **Reduced engagement** over time with project partners due to: shifts in state staff resources, loss of funding at AVCOG, and severe flooding in the Northeast Kingdom
- **PFAS is a complex issue!**
 - Written materials required a lot of text
 - At outreach events it was difficult to engage people with no prior exposure to the issue
- **Challenges advertising** both the outreach webinars
 - Difficulty finding contacts for local businesses
 - Limited email capacity from local partner due to staffing resources
 - NEWMOA not a known entity so emails from @newmoa.org likely not opened
- **One-on-one site visits** to schools difficult to arrange
 - Limited capacity from local partners due to staffing resources
 - Fortunately, no schools in the remaining partner area had PFAS exceedances
 - Last minute, pivoted to a nursing home that NEWMOA had worked with before

General Challenges

- **Few PFAS chemicals are regulated** and the health impacts of most PFAS chemicals are unknown
- **PFAS-free claims** cannot be trusted without testing
 - Cannot confidently provide alternatives
 - Some states are passing legislation requiring manufactures to report on PFAS so information should improve
 - Most testing information is from 2017 & 2018 so might be outdated
 - What was true 5-7 years ago, may not be true today but there is a lack of analytical testing to determine the validity of this statement
- **Challenging questions remain:**
 - If you already own PFAS containing items, what should you do with them?





Lessons Learned

- **Farmers markets** & street fairs or other social events are better for engagement than transfer stations/recycling centers
- **Be prepared** to encounter a small number of people who believe the issue is fake & PFAS is not a concern
- **In-person workshops** were not feasible:
 - Need local partner to arrange, but had limited capacity
 - NEKWMD board meetings now occur virtually
 - Workshops were originally targeted to community members, government and municipality officials, but less community knowledge/interest than anticipated





Successes

- In-depth research of PFAS in consumer products
- Project Partner engagement good in the first year & was productive
- Published 5 Factsheets and a Food Service Guide
 - References Available on www.newmoa.org & at the end of the presentation
- One in-person visit to NH Nursing Home
 - Analytical Testing in partnership with NH DES (Awaiting Results)

Studies and Additional Resources

"What Are PFAS? And Why Should I Care?"

PFAS in Foodware and Packaging

PFAS in Outdoor Recreation

Studies

• PFAS in Ski Wax

Additional Resources

- NRDC – Going Out of Fashion: U.S. Apparel Manufacturers Must Eliminate PFAS
- Maine Fish & Game Safe Eating Guidelines
- New Hampshire Fish & Game – Deer & PFAS Testing
- New Hampshire Fish Consumption Guidelines

PFAS in Personal Care Products

PFAS in Clothing and Other Textiles

Successes (Continued)

- Lots of outreach Engagement
- Increased awareness of PFAS in communities
 - NH Farmers Markets: 97
 - ME Farmers Markets: 168
 - VT Farmers Market & Recycling Center: 54
 - Lyndonville, VT Street Fair: 69
- Summer 2024 webinars – before/after survey showed that the majority of participants learned more about the issue and plan to explore alternatives they learned about





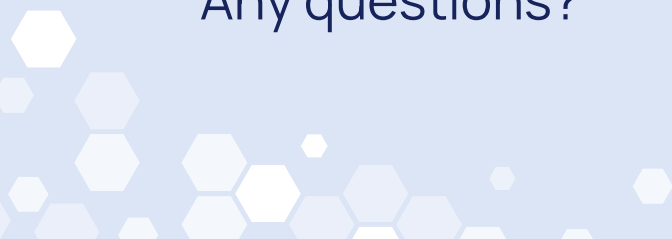
If you know of more recent analytical data on PFAS in products and additional practical solutions, please email us!

Thank you!

Any questions?

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Resources



- All resources are available on the www.newmoa.org website:
 - **Project Page:**
<https://www.newmoa.org/projects/pfas-in-consumer-products/>
 - **Factsheets:**
<https://www.newmoa.org/pfas-in-consumer-products-factsheets/>
 - **Food Service Guide:**
<https://www.newmoa.org/pfas-in-food-service/>

*** All Studies and Additional Resources can be found on the Factsheets and Food Service Pages*

PFAS in Consumer Products & Food Service

Many consumer products contain per- and polyfluoroalkyl substances (PFAS), a large group of human-made chemicals known for their heat-stable, friction-reducing, and grease-, water-, and stain-resistant properties. PFAS are frequently called "forever chemicals" because they do not breakdown and instead build up over time in the environment, animals, and people; and can be harmful to health.

The purpose of this Project is to educate residents, local officials, institutions, and businesses in targeted areas of Maine, New Hampshire, and Vermont on which products are likely to contain PFAS and how to avoid buying them. NEWMOA has developed:

- A general handout about PFAS and the connection to consumer products
- Handouts on four common categories of consumer products
 - Clothing & Other Textiles
 - Personal Care Products
 - Outdoor Recreation
 - Foodware & Packaging



Program
Materials Management

Years Active
2022-present

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