



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 decreases the amount of PFAS entering the environment and drinking water supplies. For an introduction to PFAS, read the *"What are PFAS & Why Should I Care?"** factsheet.

Many fabrics are treated with PFAS to achieve durability and water- and stain-resistant qualities. Any textiles meant to cover or protect surfaces may contain PFAS. Examples of textiles that might contain PFAS include:

- Clothing
- Bedding
- Tablecloths
- Window & shower curtains
- Upholstered furniture
- Rugs & carpeting

Rules-of-Thumb

In general, items making the following claims are likely to contain PFAS:

- *Waterproof, water-resistant, or water-repellent*
- *Stain-proof, stain-resistant, or stain release*

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 below ground where it can contaminate the groundwater. If your home is on a sewer system, the treatment plant cannot remove PFAS and it enters the environment.

Textiles primarily contribute to human exposure to PFAS from:

- Drinking water that is impacted from washing PFAS-containing textiles
- Breathing in and consuming dusts from textiles, including furniture, carpets, and rugs treated with PFAS for stain-resistance

A study* of PFAS in school uniforms found that all of the water-resistant and stain-proof uniforms tested were positive for PFAS. Another study* of children's clothing found that 79% of the clothing items tested – and 100% that were labeled as water- or stain-resistant – contained PFAS.



Additional Concerns for Children

- *PFAS in carpets and other textiles can attach to dust particles. Dusts are an increased hazard for children because they are closer to the carpet surface and they put items that might have dust on them into their mouths*
- *Clothing or bedding may lead to higher exposure for children if they put PFAS-treated textiles in their mouths*

Be Skeptical of PFAS-Free Claims

Some apparel companies have PFAS responsibility statements that may lead to confusion. Some companies state that their products are PFC-free, PFOA-free and/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!

Like clothing, bedding that claims to be waterproof or stain-resistant is often treated with PFAS. One study* found mattress and pillow protectors frequently tested positive for PFAS even if they were marketed as "green" or "environmentally friendly". Note that the same study found that cotton sheets with NO claims of water/stain-resistance had a very high probability of NOT containing PFAS.

Many carpets and rugs are often treated with PFAS to achieve durability and water- and stain- resistant properties. A 2017 review* found that carpet dusts containing PFAS were a significant exposure route for infants and young children. Since PFAS are considered proprietary ingredients, carpet and rug manufacturers often do not disclose these treatments.



*Visit <https://www.newmoa.org/pfas-in-consumer-products-factsheets/> for more information, including links to the mentioned studies

WHAT YOU CAN DO

- Don't buy clothing, bedding or other textiles labeled as waterproof or water/stain/oil-resistant
 - Look for untreated, natural fabrics like cotton, linen, wool, hemp, and silk
 - Since PFAS wash out over time, continue using products that have been laundered multiple times, rather than purchasing new
- Use 100% wool mattress pads as a natural water-resistant alternative (but not waterproof)
 - If you really need a waterproof mattress protector, choose a polyethylene plastic mattress wrap that you then cover with a natural fiber pad
- Consider wood or tile flooring instead of carpet. When buying a new rug or carpet, opt for carpet without water/stain/oil-resistant properties
 - Wool is a natural fiber that has natural water- and stain- resistant properties (note that wool carpet can be more expensive than carpets made from plastics such as acrylic, polypropylene, and polyester)
 - If you have a concern that older carpets and rugs might contain PFAS, frequently use a HEPA filter vacuum to reduce carpet dust
- Choose wood furniture with cushions (made from fabric that is not treated to be water/stain/oil-resistant) rather than purchasing new upholstered furniture
- Rather than wash the full textile item, try to spot treat with plain soap and water or other all-natural stain removal remedies

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NEWMOA is a non-profit, non-partisan, interstate association whose membership is composed of the state environment agency programs that address pollution prevention, toxics use reduction, sustainability, materials management, hazardous waste, solid waste, emergency response, waste site cleanup, underground storage tanks, and related environmental challenges in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont (www.newmoa.org).

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