

Is stain resistance leaving a lasting mark on the environment?

- **At Fidra, we believe that stain resistance on school uniforms shouldn't come at a high cost to the environment.**
- **We think that 'stain resistance' might not be bringing benefits, and our survey results support this.**
- **We're asking retailers to phase out PFAS-based coatings on their uniforms and offer non-coated alternatives.**



What makes clothes stain resistant, does it work, and at what cost to the environment?

- Some stain resistant coatings are made using chemicals called per- or poly-fluorinated Alkyl Substances, or PFASs. These synthetic chemicals are released into the environment during production, use and disposal of many different products, including school uniforms.
- Certain PFASs, released during manufacture of these coatings, have been found all around the worldⁱ, in our bodiesⁱⁱ and wildlife. PFASs don't break down easily, so build up in the environment where they may cause harm to some of our most vulnerable speciesⁱⁱⁱ.
- Many supermarkets now offer alternative PFAS-free coatings, which claim to be environmentally friendly. However, we know very little about the chemical composition or environmental impact of these alternatives.

Do we really need stain resistant coatings on uniforms?

Is stain resistance making your lives easier? Are stain resistant uniforms helping customers to wash clothes less often, or buy clothes less frequently? We conducted a nationwide survey of 500 parents and carers of primary age children to find out.

Our results suggest the opposite. Those parents seeking out stain resistance are also those who buy uniform more regularly, and wash clothes more often. This suggests the coatings aren't necessarily helping to make lives more convenient.

Uniforms are bought new around once a year, on average, suggesting that it's the outgrowing of clothes, or habit, that lead to new purchases, rather than worn out clothes.

Did you know?

- **Stain resistant coatings on uniforms generally only last around 10-20 washes**
- **Stain resistant coatings are often less effective if you use fabric conditioner**

Visit www.pfasfree.org.uk to find out more

What can you do?

Although stain resistance is everywhere, you can still easily find uniforms without PFAS-based stain resistance. Even better, non-coated options are often cheaper than those with a technical finish. Using pre-loved uniforms from second hand sales may be the best option of all for the environment.

- Read the labels of skirts, trousers, blazers and shirts before you buy.
- Check www.pfasfree.org.uk for information about who sells what.
- Tell us what you think! We're keen to hear your opinions on stain-resistant uniforms and get feedback on our new website. Please get in touch with us

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Fidra's guide to stain resistance:

Who sells what among major UK retailers. For independent retailers check out www.pfasfree.org.uk

Technical Finish	PFAS-based?	Where do you find them?	Description	How long does it last? ^{iv}
Teflon™ - Shield Pro+ - Clean - Clean & Dry - Shield & Clean+	YES	Sainsbury's, John Lewis, Debenhams, Matalan, Morrisons (Nutmeg - phasing out), Next	Teflon™ is a brand-name, rather than a specific chemical. Other than their "Eco"-branded product (see below), all other products are fluorinated. The 'Clean' range also include a stain release agent.	10-20 washes (except '+ range: 30 washes)
Bionic Finish®	YES	Sainsbury's	Bionic Finish® uses a combination of PFAS and branched star-like polymers to create a water and oil-repellent finish.	20 washes
Bionic Finish Eco®	NO	Aldi, Lidl, H&M	Described as a '[water-resistant], fluorine-free recipe... Made using hyperbranched, hydrophobic polymers.'	20 washes
Teflon™ - EcoElite™	NO	Aldi, Asda (George), Morrisons (Nutmeg), Sainsbury's, Tesco, John Lewis	Teflon EcoElite™ is described as a water-repellent, non-fluorinated fabric treatment. Uses Zelan™ R3 chemistry, which is an alkyl-urethane polymer.	30 washes
NO COATING	NO!	Most retailers have non-coated options. These tend to be cheaper, use the least chemicals and pose the least environmental risk.		



This information has been provided Fidra, an environmental charity based in East Lothian. PFAS free uniforms is our latest project. We use the best available science to identify and understand environmental issues, develop pragmatic and proportionate responses through dialogue and collaboration with the public, industry and government to achieve solutions. Visit www.fidra.org.uk to find out more about us.

ⁱ Giesy JP, Kannan K. Peer Reviewed: Perfluorochemical Surfactants in the Environment. Environmental Science & Technology 2002;36(7):146A-152A.

ⁱⁱ Kato K, Wong L-Y, Jia LT, Kuklennyik Z, Calafat AM. Trends in Exposure to Polyfluoroalkyl Chemicals in the U.S. Population: 1999–2008. Environmental Science & Technology 2011;45(19):8037-8045.

ⁱⁱⁱ Eggers Pedersen K, Basu N, Letcher R, Greaves AK, Sonne C, Dietz R, Styrisshave B. Brain region-specific perfluoroalkylated sulfonate (PFSA) and carboxylic acid (PFCA) accumulation and neurochemical biomarker Responses in east Greenland polar Bears (Ursus maritimus). Environmental Research 2015;138:22-31.

^{iv} As described in relevant brand brochures.