

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.
- Our survey results show that uniforms are washed and replaced at the same frequency, regardless of whether fabrics are 'stain-resistant' or not.
- We're asking retailers to phase out unnecessary PFAS-based treatments on their uniforms



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

- Some stain resistant treatments are made using chemicals called per- or poly-fluorinated Alkyl Substances, or PFAS. These synthetic chemicals are released into the environment during production, use and disposal of many different products, including school uniforms.
- PFAS have been found all around the worldⁱ, in wildlife and in our own bodiesⁱⁱ. PFAS 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 clothing treated with alternative, PFAS-free, chemical formulas to achieve stain-resistance, 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 our lives easier? Are stain resistant uniforms helping customers to wash clothes less often, or buy clothes less frequently? We conducted a nationwide survey of over 600 parents and carers of primary age children to find out.

Our results show the opposite. The people who specifically look for 'stain resistance' on labels, bought uniforms more regularly, and washed clothes more often. There is no evidence to suggest that stain resistant finishes make our lives any more convenient.

We found that uniforms were bought yearly, regardless of whether they had been treated with stain resistance or not. This indicates, as expected, that we are not replacing school uniforms because of stains, more likely, it's because of size.

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, and require heat to reactivate after washing

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.
- Visit our website to find out ‘who sells what’ and make informed purchases.
- **Sign our pledge!** Visit our website and help us to tell retailers that we want our products and our environment PFASfree.

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

Fidra’s guide to stain resistance:

Who sells what among major UK retailers. Visit www.pfasfree.org.uk for our complete list.

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, Styrishave 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.