

Your clothes are shedding microfibres - and regulators are coming



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By Guest Contributor

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Every time you wash a garment, it sheds hundreds of thousands of tiny fibres into the water system, most invisible to the naked eye. Multiply that by the 132 million tonnes of textiles produced globally each year, and the picture changes dramatically.

Earth Action’s new report, From Shedding to Solutions, provides the first system-level assessment of total microfibre losses during textile manufacturing - before anyone wears the clothes. The findings are striking, production alone generates an estimated 92,000 tonnes of microfibre losses every year - roughly 670 milligrams shed into wastewater for every kilogram of textile produced. Even after wastewater treatment, around 63 percent still leak into the environment.

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This matters far beyond the factory floor. Concerningly, a portion of those microfibres are synthetic and thus non-biodegradable. They persist indefinitely in rivers, oceans and soils, bioaccumulate through food chains, and have been detected in Arctic sea ice, deep-ocean sediments and drinking water. Most alarmingly, they have now been confirmed in human blood, lung tissue, placentas and testes. Microfibre pollution is not an abstract

environmental concern; it is a direct and growing threat to ecosystems and human health.

The regulatory landscape of microfibre pollution

Yet the report also identifies this is a solvable problem. Optimising manufacturing processes to shed less, expanding wastewater treatment in under-served production regions, and ensuring controlled containment of treatment sludge could cut production phase leakage by up to 95 percent by 2032.

Regulators are not waiting for industry to act voluntarily. France has become the global laboratory: since January 2025, under the Anti-Waste Circular Economy Law, brands with revenues exceeding 10 million euros must carry mandatory shedding warning labels on garments with over 50 percent synthetic materials following it being successfully rolled out to larger brands in 2023. Shein is the most notable brand to have fallen foul of the regulation, receiving a 1.1 million euro fine. Under France's Extended Producer Responsibility framework, high-shedding products face surcharges of up to 50 percent. What France mandates today, the EU typically adopts within three to five years.

That timeline is already materialising. From September 2026, the EU's Empowering Consumers Directive will ban unsubstantiated environmental claims; "sustainable," "eco," or "low-shed" without independently verified data becomes illegal. By June 2027, eco-modulated producer fees under the EU Textile EPR will penalise high-shedding products, with brands lacking shedding data assigned default worst-case fee rates. By mid-2028, every textile placed on the EU market will require a Digital Product Passport containing microfibre shedding data.

The pressure extends beyond Europe. In April this year in the US, the EPA and Department of Health and Human Services designated microplastics a priority contaminant group for the first time. In the UK, the Competition and Markets Authority has made fashion a named priority for green claims enforcement, with fining powers of up to 10 percent of global turnover. High-severity greenwashing cases rose 30 percent globally in 2024, with fashion accounting for a disproportionate share.

Brands that have built sustainability narratives around recycled polyester face a risk that cuts the opposite way from how the claim was intended. "Made from recycled bottles" was written and approved as a neutral statement about material origin. It doesn't stay neutral once shedding data enters the picture. Studies point to recycled polyester shedding at the same rate or up to 55 percent more than virgin by particle count, and weight-based measurements, the industry's default metric, may understate the difference further since rPET fibres tend to fragment into smaller, more numerous particles.

Shedding is driven by fabric construction (yarn type, fibre length, weave, finishing), not by whether the fibre originated from a bottle or a pellet. That means a label meant to signal recycled content risks instead signalling, to increasingly literate consumers and regulators, a product more prone to shed and to shed the smaller, more biologically active particles that current testing struggles to catch. The claim cannot legally imply reduced microfibre pollution on that basis, and several EU consumer protection agencies have already flagged rPET claims as a 2026 enforcement priority.

The brands best placed to navigate what is coming are those acting now. From Shedding to Solutions makes clear that the three levers studied compound together to have a significant impact on leakage into the environment by combining improved wastewater treatment, expanding controlled sludge disposal internationally and optimising manufacturing processes on factory floors to drive systemic change. Embedding shedding performance as a design parameter, building portfolio-level baselines, and engaging suppliers on manufacturing-phase data are the foundation for compliant claims, optimised EPR fees, and populated Digital Product Passports.

The science now tells us where the problem lies, how large it is, and that solutions exist. The regulatory landscape tells us the cost of inaction. The choice for every fashion brand is binary: lead the transition, or be led by it.

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