

Is Any Place Safe From Microplastic Pollution?



Microplastics have infiltrated the loneliest reaches of the planet, including polar sea ice and surface water. Now, scientists have detected the tiny shards of plastic, which are no bigger than a grain of rice, in freshly fallen Antarctic snow, with huge implications for the health of the continent's ecosystems and its climate.

The research, conducted by University of Canterbury Ph.D. student Alex Aves in 2019 and published last week, homed in on 19 sites in Antarctica, where more than a dozen types of plastic were found. The most ubiquitous version was polyethylene terephthalate, better known by its acronym PET, which is frequently used to make plastic bottles and clothing.

"When Alex traveled to Antarctica in 2019, we were optimistic that she wouldn't find any microplastics in such a pristine and remote location," said associate professor Laura Revell,

Aves's supervisor. In addition to more remote sites, "we asked her to collect snow off the Scott Base and McMurdo Station roadways, so she'd have at least some microplastics to study."

Back in the lab, it quickly became obvious that plastic particles were present in every sample, even those from remote sites on the Ross Ice Shelf. Every liter of melted snow contained an average of 29 microplastic particles, higher than marine concentrations previously reported from the surrounding Ross Sea and in Antarctic sea ice.

Revell said that on hindsight she shouldn't have been surprised. "From the studies published in the last few years, we've learned that everywhere we look for airborne microplastics, we find them," she said.

While atmospheric modeling suggests that the microplastics may have traversed thousands of miles through the air, it is equally plausible that human presence in Antarctica has established a microplastic "footprint," the scientists said. Microplastics have been linked to growth and reproductive disruptions in organisms and oxidative stress, DNA damage and inflammation in humans. Their presence in the environment could also accelerate snow and ice melt, influencing the climate, they added.

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"It's incredibly sad but finding microplastics in fresh Antarctic snow highlights the extent of plastic pollution into even the most remote regions of the world," Aves said. "We collected snow samples from sites across the Ross Island region of Antarctica and found microplastics in all of these."

The revelation amid calls from a coalition of researchers and environmental campaigners asking British lawmakers to back a bill that would require appliance manufacturers to fit microplastic-catching filters to new domestic and commercial washing machines amid the growing use of synthetic materials in fashion. Synthetic fibers, including polyester and nylon, make up 69 percent of all materials used in textiles today, according to petrochemical analytics firm Tecnon OrbiChem. By 2030, they will comprise more than 75 percent,

In an open letter to the Department of Environment, Food and Rural Affairs last week, Eco-Age, Fashion for Good, Greenpeace U.K., Oceana and others urged the United Kingdom to join France "at the front of the pack in tackling microplastic pollution." As of January 2025, all new French washing machines will have to include a microfiber filter.

Washing machine filters can cut 90 percent of microplastics released from laundering, the letter said. "Whilst addressing clothing overproduction and overconsumption is the ultimate solution to the microplastic problem, the installation of

microfibre filters to laundering appliances presents itself as an immediate and effective solution," it added. "Further longer-term solutions include root-cause change at [the] material design level, maximum thresholds on microplastic release, pre-washing with filters, informative labeling, promotion of responsible material selection and improved regulations for wastewater and sewage sludge."

At the Consumer Electronics Show in January, Patagonia and Samsung said they are working together to develop a washing machine that minimizes the number of microfibers, both natural and synthetic, that enter waterways during laundering. One of the outdoor-wear label's signature polyester fleece jackets can discharge up to 250,000 flecks of plastic during a single wash, Patagonia found in 2016. Experts say that microfibers that slough off natural materials such as cotton or linen can also present a problem, especially if they have been dyed, processed or treated with toxic chemicals.

The ZDHC Foundation and The Microfibre Consortium (TMC) are also grappling with microfiber pollution, albeit higher up in the value chain. Following TMC's release of manufacturing guidelines on reducing microfibers in textile manufacturing wastewater, it and ZDHC will partner closely on a "new phase" of the project that "leverages each other's expertise and infrastructure." This will include defining a test

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method to measure fiber loss within wastewater at a manufacturing level, determining a baseline for microfiber loss from manufacturing facilities and creating a harmonized reporting structure to capture all that information.

“We are looking here to maximize change, without the need for huge investment or complicated modifications within textile production,” Sophie Mather, executive director at TMC, said last week. “There is an urgency for us to be able to measure consistently from facility to facility, so that we can manage loss and ultimately impact. I offer up a call to action for [the] industry at all levels, synthetic and natural fibers, high fashion to outdoor, to align and encourage manufacturing facilities to support this work.”

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<https://sourcingjournal.com/topics/sustainability/microplastics-microfibers-defra-washing-machine-antarctica-snow-patagonia-zdhc-349452/>

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Uyghur Forced Labor Prevention Act comes into force



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With its coming into force on June 21, The Uyghur Forced Labor Prevention Act (UFLPA) requires US companies to prove that goods imported from China's Xinjiang are not made with forced labour, otherwise Customs and Border Protection (CBP) will have the right to seize those goods. The UFLPA was signed into law by President Joe Biden on December 23, 2021.

The UFLPA establishes a presumption that the importation of any goods, wares, articles, and merchandise mined, produced, or manufactured wholly or in part in the Xinjiang Uyghur Autonomous Region (XUAR) of China, or produced by certain entities, is prohibited by Section 307 of the Tariff Act of 1930 and that such goods, wares, articles, and merchandise are not entitled to entry to the United States, according to the CBP. "The presumption applies unless the Commissioner of US Customs and

Border Protection (CBP) determines that the importer of record has complied with specified conditions and, by clear and convincing evidence, that the goods, wares, articles, or merchandise were not produced using forced labour."

CBP said it may consider evidence other than what is provided by the importer in determining whether there is clear and convincing evidence.

The UFLPA also requires that importers demonstrate due diligence, effective supply chain tracing, and supply chain management measures to ensure that they do not import any goods made, in whole or in part, by forced labour, especially from the XUAR. "This requirement extends throughout the entire supply chain, to include goods that may be shipped from elsewhere in China and to third countries for further processing," CBP said in its operational guidance for importers released last week.

To enforce the UFLPA, the Forced Labor Enforcement Task Force (FLETF) last week made public its 'Strategy to Prevent the Importation of Goods Mined, Produced or Manufactured With Forced Labor in the People's Republic of China'. The strategy is the culmination of months of engagement with

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brands, suppliers, Congress and other key stakeholders.

The UFLPA will supersede current withhold release orders (WROs) related to Xinjiang for goods imported on or after June 21, 2022. "In situations in which the importer contends the UFLPA does not apply to its imports, and thus, that its imports are not subject to the UFLPA presumption, the importer may submit documentation demonstrating that neither the goods nor their components were produced wholly or in part in Xinjiang or by entities identified in the UFLPA Entity List," the operational guidance stated.

Under its Commodity-Specific Supply Chain Tracing Documentation, CBP has released specific for supply chain documentation that importers may consider submitting for cotton, a commodity with a high-risk of forced labour.

For importing cotton, importers need to provide sufficient documentation, including any records that may be kept in the ordinary course of business (e.g., purchase orders, payment records, etc.), to show the entire supply chain, from the origin of the cotton at the bale level to the final production of the finished product. They also need to provide a flow chart of the production process and maps of the region where the production processes occur. They should number each step along the production process and number any additional supporting documents associated with each step of the process.

In addition, they need to identify all the entities involved in each step of the production process, with citations denoting the business records used to identify each upstream entity with whom the importer did not directly transact.

In effect, UFLPA is likely to result in an unprecedented level of scrutiny, especially for goods imported from China, including clothing and textiles. While there are methods like DNA traceability and isotopic testing to track the entire supply chain, their reliability is yet to be proven, according to experts.

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<https://www.fibre2fashion.com/news/textile-news/uyghur-forced-labor-prevention-act-comes-into-force-today-281464-newsdetails.htm>

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UN countries agree on global PFHxS ban



Adding the PFAS to the Stockholm Convention will help protect millions of people, says NGO
UN countries have agreed to a global ban of the industrial chemical perfluorohexane sulfonic acid (PFHxS), with no exemptions, by adding it to Annex A of the Stockholm Convention on persistent organic pollutants (POPs).

Countries added the substance and 147 of its salts and related compounds at the Conferences of the Parties (COPs) to the Basel, Rotterdam and Stockholm Conventions on 10 June in Geneva, Switzerland. The face-to-face meeting, which runs from 6-17 June, follows a virtual meeting in 2021 that addressed operational and budget-related issues.

PFHxS is used in firefighting foams and in the manufacture of stain coatings for carpets, paper and cloth. It is part of the class of per- and polyfluoroalkyl substances (PFASs) that have come under

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scrutiny in recent years amid mounting public concern about their persistence in the environment and their presence in water.

PFHxS has been used as a substitute for two other fluorinated compounds, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), which have also been listed under the Convention. PFOS was added to Annex B in 2009 while, in May this year, parties to the Convention agreed to add PFOA, along with its salts and PFOA-related compounds, to Annex A with some exemptions.

"The decision to ban PFHxS will help protect millions of people around the world, including firefighters who have some of the highest exposures because of PFHxS presence in firefighting foam," said Sara Brosché, science advisor at NGO the International Pollutants Elimination Network (Ipen).

To date, 30 POPs – which cover hundreds of related chemicals – are listed under the Stockholm Convention, which requires countries to take action to eliminate production and use.

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<https://chemicalwatch.com/502075/un-countries-agree-on-global-pfhxsban>

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