14 FEBRUARY 2025

Dear Chair Sollman, Vice Chair Brock, and Members of the Committee,

RE: Support for SB 526

Firstly, I would very much like to thank you both for your leadership and drive towards the abatement of microplastic pollution from our clothing, and in particular that currently emitted from the washing of our clothes, with the Oregon SB 526.

Our core purpose at Xeros is to reduce the environmental impact of the clothes the world wears, with microplastic pollution being one area that we have been studying for over six years from a science and technical perspective: our high performance, user friendly and low-cost filtration solution, XFilter™, being the result our specific endeavours in this field.

Independent tests by Höhenstein have shown that XFilter™ is the highest performing filter available, capturing over 99% of microplastics and 80% of polycotton microfibres. There are 4 different propositions of XFilter™, that are either currently available or in development:

- XF¹ is the internal domestic proposition of XFilter™ and is designed to be integrated into any domestic washing machine during its manufacture, to help trap the microfibres that our clothes release. XF¹ is housed in the detergent drawer without the need to remove any existing parts, making it easily integrated into existing machines. XF¹ is designed to last the lifetime of a washing machine with no replacement cartridges. When the filter is full, the consumer is alerted by a sensor. They can then easily remove the filter and empty the trapped fibres into household waste, or recycling as and when this capability is developed, making it as simple as emptying the lint from your tumble dryer. In the last 12 months Xeros has licensed its XF¹ technology to three global component suppliers to the washing machine industry. XF¹ is engineered to work with any washing machine model to enable partners to scale this solution.
- XF² is the external commercial proposition of XFilter™. XF² is a stand-alone plug and play unit that can be attached to a series of machines, or a whole laundry, with simple plumbing. Whilst for some laundries XF² takes up an acceptable space allowance, Xeros is currently working on reducing the size of the unit using the development work we have been doing on XF3 to ensure there are different options for industry. The system incorporates a self-cleaning mechanism designed to last 60 wash cycles before it needs to be emptied. It is a simple, one-minute operation to dispose of the fibres from the collection tray which is then put back into the XFilter™ to continue to collect further fibre fragments.
- XF³ is an external domestic proposition of XFilter™ and is designed as a stand-alone solution that can be attached to any domestic washing machine model. It is a plug and play solution that is available immediately for any domestic appliance manufacturer or retailer to adopt as a white label solution. For consumer ease, XF³ can be installed at any height enabling its sleek modular design to be placed in any adjacency to your washing machine. It is programmed to automatically start when the washing machine drains and has an alert when it needs emptying, enabling users to simply plug it in and leave it to work with complete peace of mind.
- XF⁴ is the internal commercial proposition of XFilter™ currently in development at Xeros. Xeros has been working with multiple OEMs to successfully integrate XF⁴ into a space pocket within their existing commercial platform without requiring them to any modifications to the machine. As with XF¹, XF⁴ fits within a ‘pocket’ that is available in any

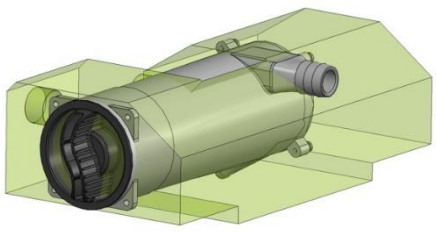


IMAGE 1

machine without the need to remove existing parts (see **Image 1**).

Based on the timeframe of the Oregon SB 526 which does not come into effect until 01 January 2030, there is ample time for washing machine manufacturers to productise the filtration solutions that are currently available and in development, which capture more than 90% of microplastics emitted by our laundry both in the home and in commercial settings.

Whilst some washing machine manufacturers are taking proactive measures ahead of regulation, there is a number awaiting regulation before taking action. Timely, ambitious and robust legislation is therefore critical in moving the dial, accelerating innovation, and combatting the pervasive microplastic problem.

At Xeros we absolutely believe that microfibre filtration capture from washing machines is the right, and for now the only, effective short to medium term solution that has any real prospect of cutting deeply into this pervasive source of plastic pollution. For your information, we have included evidence to support this belief within the Appendix below.

Once again, thank you for your work so far on this important issue. Please do not hesitate to contact Xeros if you require any further information.

Sincerely,

Neil Austin
CEO, Xeros

APPENDIX

There are a number of robust and repeatable testing methods available for measuring microfibre release which show consistent results:

- Hohenstein's analytical methods can determine the fibre release behaviour from textile surfaces and the fibre content in process and waste water.
    - Quantification of fibre release and fibre length distribution with the Hohenstein method: Dynamic Image Analysis (DIA)
    - Gravimetric measurement of total abrasion by filtration according to the University of Leeds / Microfiber Consortium (UoL/TMC) method or AATCC TM212.
- The AATCC TM212-2021 test Method for fibre fragment release during home laundering, provides a standardized method for quantifying fibre fragment shedding. TM212-2021 results from extensive collaboration representing a broad range of stakeholders in the textile industry, public and private institutions, and technical experts in the Global Sustainability committee.
- The Microfibre Consortium's TMC testing method quantifies fibre loss from fabrics which reflect that found in domestic laundering, during the initial washing cycle. Using ISO 105-C06 at its core, The Microfibre Consortium Test Method uses standard lab equipment and provides accurate comparable data, in a manner that can be scaled commercially across a range of facilities.
- A 2020 study tested six devices to examine the efficacy of these devices at mitigating microfibre release from clothing during washing or capturing any microfibres released in the effluent (Napper et al.).
- A 2019 study ran wash trials at real scale were performed on commercial clothes by using a household washing machine in order to gain reliable data about the release of microplastics, and to identify possible influences of textile characteristics on the release (De Falco et al.)

Studies have shown that consumers are willing to pay more for washing machines with microfibre filtration technology:

- An internal study conducted by Trinity McQueen in September 2021 of 2500 adults in the UK, Germany and France, showed that 95% would be willing to pay for filtration, with nearly half willing to pay an additional £70 (€79).
- A YouGov survey commissioned by the Marine Conservation Society found 81% of adults in Great Britain said they would support legislation rrequiring all new domestic washing machines to be fitted with microfibre filters. A quarter (26%) said they would be willing to pay an additional £50 (€57) or more and over half (56%) said they were willing to pay an additional £5 (€5) or more for a washing machine that included a microfibre filter compared to one that didn't.
- PlanetCare's 2021 microfibre pollution survey on over 32,000 people found that 96.6% thought washing machines should already have filters that stop microplastic pollution and 84.8% would be willing to pay more for a filter. 94% of respondents would buy washing machines with filters.
- As highlighted in the European Commission's factual summary report of the Public Consultation on the Microplastics Initiative, most stakeholders completely agree on washing machine filters as a measure for reducing the release of microfibres.

Studies have shown that consumers are also willing to take on additional maintenance for washing machines with microfibre filters:

- A 2020 study investigating consumer attitudes towards filtration devices found that customers would be willing to spend an extra five minutes per cycle on the product. It also found that 95% of respondents would not mind cleaning the filter for 10 minutes every 15-17 washes.
- A 2021 peer-reviewed study demonstrated that consumers were willing to collect lint captured by the filters and maintain them over 2 years.
- Many consumers already capture and dispose of lint from dryers. Therefore, it is a valid assumption that consumers will also be willing to capture lint from washing machines.

The Future of Laundry

Microfibre Pollution Filter

With over 11 years of expertise in research and laundry innovation, XEROS has revolutionised traditional laundry methods. Our solutions are market-ready, delivering breakthroughs in fabric care, reducing environmental impact, and offering cost-saving benefits for consumers.

Every wash releases microfibers from our clothes–tiny fragments that have become a major environmental concern. These fibres flow into our oceans, pollute ecosystems, and find their way into our food, water, and even our bodies.

The scale of this problem is alarming!

35%

of the microplastics in our ocean come from our washing machines

700,000

microfibres are released from our clothes in every wash

5,000,000 tonnes

of microfibres that flow into the world's oceans every year

OUR SOLUTION:
MICROFIBRE POLLUTION FILTER

- Patented filtration technology works with any washing machine model, ready for scalable use.
- Captures up to **99% of microplastics** and **80%+ of natural fibres** during laundry.
- Durable and easy to use, **lasting the machine's lifetime**.
- Available as internal or standalone units to trap harmful fibres.
- Protects oceans and waterways by reducing microfibre pollution.

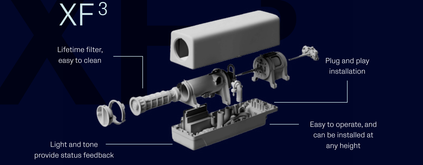
Internal Solution
XF1

Integrated during manufacture our filter is independently tested to have the highest performing capture rate on the market today.

External Solution
XF3

Featuring all the benefits of our integrated solution as a standalone device that can be fitted to any domestic washing machine.

XF3



99%

Captures up to 99% of microplastics

80%

Captures 80%+ of natural fibres

Works on all wash cycles

Works with all detergent types

Fibre drying technology

Lasts the lifetime of the machine

Integrated into any machine

Minimal energy use

Commercial Solution
XF2

Our commercial filtration solution offers the same effective microfibre capture as our domestic filter, designed for large-scale use. It can be integrated into washing machines or used as a standalone unit for multiple machines or an entire laundry facility.

- Self-cleaning, lasting 60 wash cycles before emptying.
- Quick fibre disposal and continuous collection for future cycles.

This system helps prevent microfibre pollution at a commercial scale.
For more information about our commercial microfibre filtration solutions get in touch with us today!

Case Study:
Microfibre Pollution Filter in the Antarctic

The British Antarctic Survey team are installing our Microfibre Pollution Filter at their largest facility in the Antarctic, Rothera Research Station. Their mission: to capture over 90% of microfibres from all washing machines at Admirals House where the overwintering team live during the coldest months of the year.

"In 2020, microplastic fibres were discovered on Everest, demonstrating that even the most remote locations are vulnerable to microplastic pollution. As we modernise Rothera Research Station, we are taking every practicable step to prevent the release of microplastic fibres onto the Antarctic peninsula and into the Southern Ocean.

"At BAS we actually go well above the minimum required standard with an innovative wastewater treatment plant that has a rigorous effluent testing regime developed by me and other members of the estates team. It is important that we demonstrate that BAS operates at the highest of standards and this includes our wastewater treatment. If we can do so in a location as remote as Antarctica there is no excuse for poor standards of effluent release in the UK; a problem recently highlighted in news coverage preceding COP26."

Alexander Coniff, Facilities Engineer, BAS

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Certified B Corporation