LET'S FIX POLYESTER BY MAKING IT BIODEGRADABLE*

PRIMALOFT BIO™ FIBER PARTNER®

***Biodegradable:**
93,7% biodegradation in 646 days under ASTM D5511 conditions (landfill environment); 86,1% biodegradation in 1563 days under ASTM D6691 conditions (marine/ocean environment). The stated rate and extent of degradation does not mean that the product will continue to degrade.

Any company depending on polyester knows that to future-proof the business, we must speed up the transformation to a more sustainable production and consumption of polyester. PrimaLoft® Bio™ technology enables polyester and fabric fibers to biodegrade* and return to nature. Join us in fixing polyester.

Polyester is no longer invincible

PrimaLoft® Bio™ is an additive technology that enables polyester and fabric fibers biodegrade* in the environment. A revolutionary breakthrough that offers a previously unattainable level of performance and sustainability, reducing microplastics in our landfills and oceans, PrimaLoft® Bio™ is a first-of-its-kind technology and represents a critical component to a product's lifecycle – a safety net should the product shed during laundering or end up in a landfill. It is simply designed to return to materials found in nature.

PrimaLoft® Bio™ has been specifically designed to biodegrade* in the environments where the vast majority of plastics eventually find themselves: landfills and ocean water. According to independent testing, PrimaLoft® Bio™ reached 93.8% biodegradation* in 646 days when exposed to an accelerated landfill environment. At the conclusion of this test, the remaining material was found to contain no trace of plastic, leaving behind only natural, carbon based elements! And what is even better, additional independent testing concluded that the soil left behind remains perfectly suitable for plant growth.

With no time to waste, let's fix polyester!

Designed to biodegrade* in

OCEAN WATER

WASTE WATER

LANDFILLS

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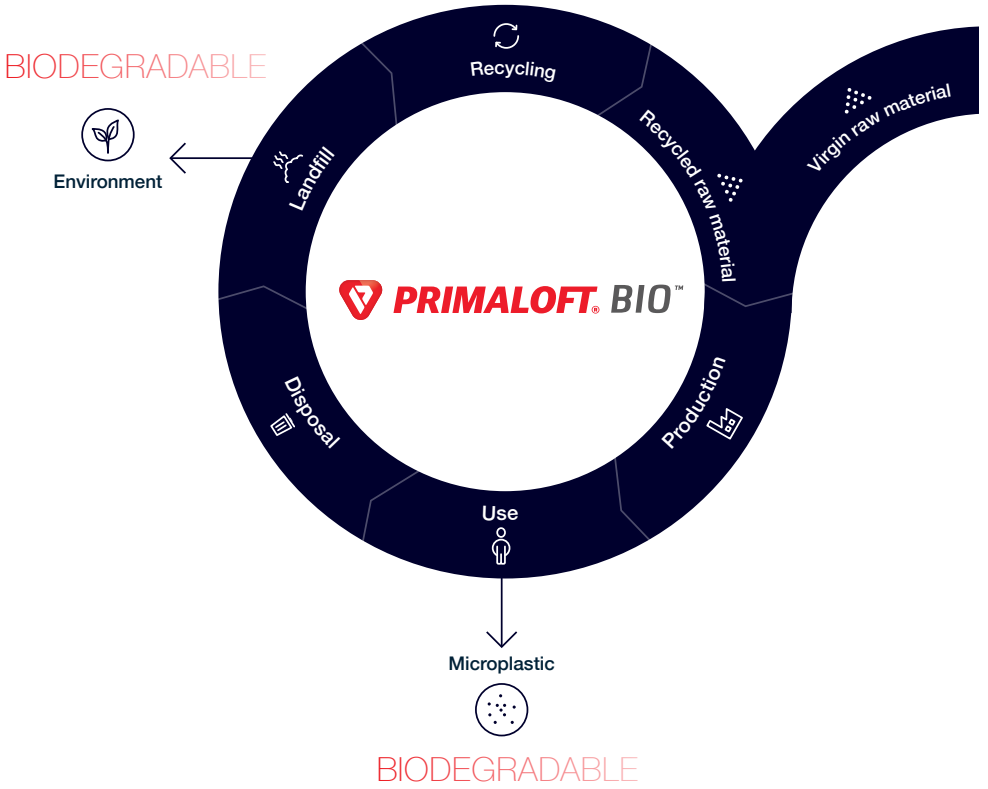
How PrimaLoft® Bio™ returns to nature

PrimaLoft® Bio™ is specifically designed to reduce plastic waste in the environment and microplastics in our oceans. PrimaLoft® Bio™ has been optimized to be more attractive to naturally occurring microbes found in landfills, oceans and waste water. When PrimaLoft® Bio™ is exposed to these specific surroundings, it will break down over time into natural components: water, CO_2, methane, biomass and humus – a common component of potting soil. And PrimaLoft® Bio™ will do so at a dramatically faster rate than standard polyester.

Circularity
PrimaLoft® Bio™ fibers are renewable in a circular economy and have proven capable of being chemically recycled. This process breaks down polyester to its basic components so that it can be rejuvenated into a new high-performance material, without compromising its original integrity.

Microplastics
Recycling alone is not enough. Polyester and fabric made from biodegradable fibers combats plastic waste at the material level. For fibers (microplastics) that make their way outside of the closed loop and into then environment – whether through laundering and wear-and-tear during the products lifecycle, PrimaLoft® Bio™ biodegrades* emitted microplastics to return to materials found in nature, reducing the global impact of microfibers.



How PrimaLoft® Bio™ works

PrimaLoft® Bio™ fibers break down at a highly-accelerated rate in landfills and oceans, returning to materials found in nature. In accelerated test conditions, PrimaLoft® Bio™ fibers reach near complete biodegradation* in under two years, while standard polyester remains almost completely intact. Independent testing has also shown that the soil left behind from the degradation process contains no plastic and remains perfectly suitable for plant growth.

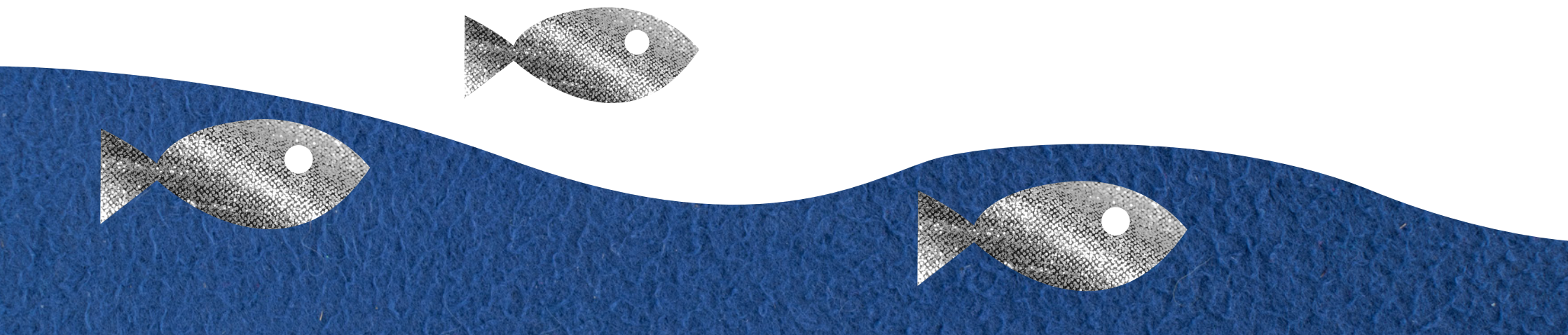
Hydrolytic-Degradation

PrimaLoft® Bio™ biodegrades* only by hydrolytic-degradation, the destruction of plastics by hydrolysis exposure to moisture under certain conditions, that results in the scission of molecular bonds. UV degradation and OXO-degradability testing confirmed the resistance of PrimaLoft® Bio™ fibers to degrade and fragment into smaller pieces of plastic.

Other biodegradation modes:

Oxo-degradation
The breakdown of plastics into fragments or pieces is due to oxidation, most commonly due to exposure to oxygen in the air.

UV-degradation
UV-degradation refers to the cracking or disintegration of plastics exposed to ultraviolet radiation, most commonly due to sunlight exposure.



The test results

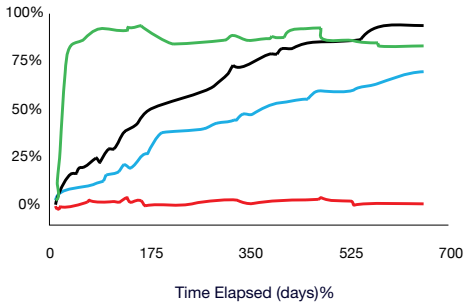
Landfill Simulation Test
method ASTM D5511

646 days

PrimaLoft® BioTM PET 93.8%

Standard polyester 1.1%

Biodegradation



- Biodegradable Fiber water resistant
- Cellulose (office paper)
- Biodegradable Fiber non-water resistant
- Standard polyester

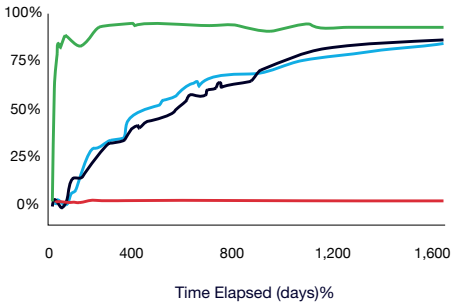
Marine Simulation
Test method ASTM D6691

1563 days

PrimaLoft® Bio™ PET 86.1%

Standard polyester 3.5%

Biodegradation



- Biodegradable Fiber water resistant
- Cellulose (office paper)
- Biodegradable Fiber non-water resistant
- Standard polyester

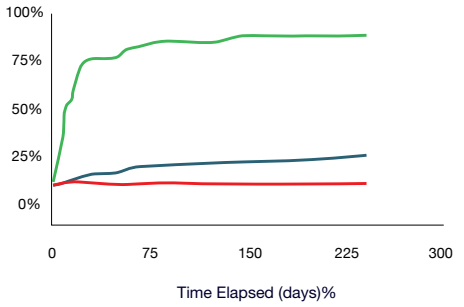
Municipal sewage sludge simulation
Test method ASTM D5210

241 days

PrimaLoft® Bio™ PET 17.8%

Standard polyester 0.9%

Biodegradation



- Biodegradable Fiber water resistant
- Cellulose (office paper)
- Standard polyester

FAQs

How does PrimaLoft® Bio™ work?
Polyester is a complex molecule that naturally occuring microbes have a hard time digesting, why standard polyester does not biodegrade. PrimaLoft® Bio™ optimizes the polyester or fabric fiber with a simple sugar, making the fibers easier and more pleasant for microbes to digest. Essentially, we make your fiber a Boston Cream Donut for microbes.

Will PrimaLoft® Bio™ biodegrade during usage?
Again, it's a no. PrimaLoft® Bio™ fibers in products do not biodegrade during usage. Only microplastics that leave products ending up in landfills or oceans will biodegrade, so there really is no special care required.

Can PrimaLoft® Bio™ be recycled?
Yes, PrimaLoft® Bio™ can be chemically recycled and fits perfectly in a circular lifespan, and PrimaLoft® Bio™ maintain a 95% yield rate through the chemical recycling process.

Does PrimaLoft® Bio™ require a change in production set-up?
No, PrimaLoft® Bio™ has the same characteristics and performance as regular PET fibers with the same output and same whiteness, and it blends well with natural fibers.

How does PrimaLoft® Bio™ work with EU's single-use plastic directive?
Polyester is a polymer, and therefore the end product could be considered as a "plastic". This means that different measures from Single-Use Plastic Directive can be applied to your product.

Is PrimaLoft® Bio™ scalable?
Yes, we are already commercial with BICO (low melting fibers), solid, and hollow fibers – and have no capacity issues.

Will PrimaLoft® Bio™ biodegrade on shelves?
No, PrimaLoft® Bio™ only biodegrades in environments with naturally occuring microbes, such as landfills, oceans, and waster water. PrimaLoft® Bio™ comes in normal bales and has a normal shelf life with no need for special care or treatment during storage and transportation.

How can we be sure it works on our set-up?
Before initiating full production, a sample is sent to 3rd party lab for an accelerated test that measures the initial behavior of the fiber. After the QC test for up to 90 days, we can verify that the technology works and the staple fibers are approved.

Can PrimaLoft® Bio™ be used for my products?
PrimaLoft® Bio™ can be added to any type of polyester and fabric fiber, from wadding, filtration, and automotive to acoustics, medical, and hygiene products.

Is PrimaLoft® Bio™ available today?
YES! PrimaLoft® Bio™ is already available from several locations worldwide, both virgin and recycled from a controlled supply chain. There is full capacity and delivery guarantee. And that's why we can start fixing polyester right now.

Who else is using PrimaLoft® Bio™?
A long range of well-known brands within outdoor garments have already implemented PrimaLoft® Bio™ in their fabrics and insulation, from Jack Wolfskin, Maloja and Katmandu to 4F and Icebug.

About Fiberpartner

Through innovative technology and extensive know-how, we add value and upgrade fabric fibers to change the world of polyester.

Any company depending on polyester knows that to future-proof the business, we must speed up the transformation to a more sustainable production and consumption of polyester. It's code red for humanity, and the old ways will no longer meet tomorrow's demands.

At Fiberpartner we know. And what's even more important, we know how to fix the problem with polyester – through strategic partnerships and choice editing for sustainability. For choosing polyester is not as simple as it used to be.

As a supplier of polyester, we play a significant role in the solutions our customers choose and use. We might not have the final say, but we continuously explore different approaches to innovating fibers and services to influence buyer behaviour and edit choice out of the market.

Our 40 years of global experience and extensive know-how about the newest and most innovative technology from recycled plastics to biodegradable polyester have urged us to make change happen.

But no matter how much experience and expertise we have, and no matter how hard we strive to come up with new solutions to help our clients and our climate, this requires collaborations and partnerships. And that's why we invite you to help us change the world of polyester.

Let's fix polyester together.

About PrimaLoft®

PrimaLoft® is Relentlessly Responsible™.

How do you choose between what's good for you and what's good for the Earth? Isn't it one in the same? That's why we've created a single focused movement, using performance to drive sustainability. We do this by pushing the limits of material science forward, resulting in the perfect balance between performance and responsibility. Each one elevated. Neither one sacrificed.

We provide material solutions for a wide variety of activities and experiences across many industry segments and constantly strive to develop better more sustainable solutions. We are constantly in pursuit of the next leap in sustainability.

PrimaLoft® Bio™ is the first ever additive technology that enables polyester and fiber to biodegrade*.
A revolutionary breakthrough that offers a previously unattainable level of performance and sustainability, drastically reducing the impact of micro plastics in our landfills and oceans. Another important milestone in the journey towards a more sustainable world.

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Contact us for any special requirements:
www.fiberpartner.com / Tel. +45 79 44 77 22

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