

TECHNOLOGY

CiCLO® technology reduces the persistence of fugitive synthetic microfiber pollution caused by textiles.

What is it?

CiCLO® technology is a patented sustainable textile ingredient that is added to polyester and nylon during the melt extrusion process. It can be blended with recycled or virgin fibers.

How does it work?

CiCLO® additive is thoroughly blended with the base polymer while in molten form during melt extrusion to create countless biodegradable spots in the matrix of the plastic. These spots act as pathways that enable naturally occurring microorganisms to break down and digest CiCLO® fibers, resulting in the production of basic natural elements.

When does it work?

The mechanism is only activated under conditions that allow for biodegradation – access to moisture and an abundance of microbes over an extended period of time. CiCLO® fabrics will not biodegrade or prematurely deteriorate on a warehouse shelf, while being used, or during customary care—just like inherently biodegradable fabrics made from natural fibers like cotton or wool will not.

Key benefits

- ▶ Durability & recyclability maintained
- ▶ ECO PASSPORT Certified by OEKO-TEX®
- ▶ Non-toxic to marine life
- ▶ Traceable
- ▶ Controlled distribution only to CiCLO® Certified Fiber Manufacturers globally
- ▶ Responsible marketing claims
- ▶ REACH Compliant

Why use it?

Fiber fragments shed from synthetic fabrics made with CiCLO® technology won't persist in the environment forever the way other synthetics do.

The CiCLO® solution helps bridge ideal industry-wide goals — 100% prevention of plastic pollution, and completely closed loops — with current reality. There are no suitable substitutions available at scale today to replace the synthetic fibers used in 60% of global textiles production. Almost all textiles unavoidably shed, and options to recover the fragmented fibers are extremely limited. Once these tiny plastic microfibers end up as pollutants in the environment, they simply can't be recaptured. They are prolific and omnipresent, including the air, wastewater treatment plants, soil, aquatic environments, landfills, and in the bloodstreams and major organs of humans.

Made to last shouldn't mean here forever.

Learn more at ciclotextiles.com

THE SCIENCE

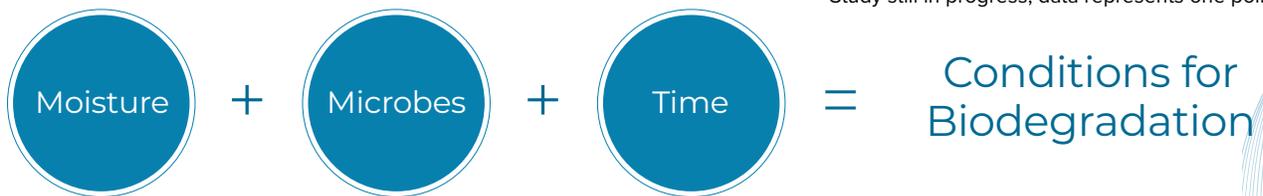
CiCLO® fibers are proven to biodegrade at greatly accelerated rates in environments where microfibers are prolific pollutants.

Comparative biodegradation rates below are based on long term studies at 3rd party labs using internationally recognized ASTM Test Methods in controlled environments. Many factors influence biodegradation. Rates will vary from environment to environment for any inherently biodegradable materials that end up as pollutants in uncontrolled natural conditions.

Comparative Biodegradation Rates of CiCLO® Polyester & Conventional Polyester

Environment	Days	CiCLO® Fiber Biodegradation	Untreated Fiber Biodegradation
Waste Water Treatment Plant Sludge ASTM D5210	847	88%	0%
Soil ASTM D5988	1,170	91%	3%
Seawater ASTM D6691	1,362	94%	5%
Seawater/sediment Interface* ISO 19679	180	17%	0.65%
Anaerobic Digester (Landfill) ASTM D5511	1,278	91%	6%

* Study still in progress, data represents one point in time



No activation during use or care

Additional information on lab testing and legally compliant marketing claims about biodegradable plastics:

*Biodegradation studies are conducted by independent 3rd party laboratories using internationally recognized ASTM Test Methods, including D5210, D5988, D6691 and D5511. Referenced Test Methods use respirometry, a process that measures biogas and uses stoichiometry to calculate rate and extent of biodegradation. Respirometry studies give true indication that microorganisms are breaking down and digesting materials. Biodegradation percentages never reach 100% on respirometry study data because when microorganisms digest carbon, most is used for energy and respired but some is utilized to build their cell walls. The FTC requires us to state that the rate and extent of biodegradation presented does not mean that the product will continue to biodegrade. In other words, do not extrapolate data. Laboratory studies represent controlled conditions. As with all biodegradable materials, the actual rate and extent of biodegradation is dependent upon individual conditions in actual environments.

IMPORTANT CALIFORNIA NOTICE: California law prohibits the sale of plastic packaging and plastic products that are labeled with the terms 'biodegradable,' 'degradable,' or 'decomposable,' or any form of those terms, or that imply in any way that the item will break down, biodegrade or decompose in a landfill or other environment. These restrictions apply to all sales in or into the State of California, including such sales over the internet. Intrinsic Advanced Materials, LLC, has developed extensive guidelines for how to use the CiCLO® trademark and brand assets in ways that are compliant with FTC and California requirements, and how to explain the benefits of CiCLO® technology to consumers in an easy to understand and truthful way.