
October 23, 2024

Plant-Based Synthetic Fiber PlaX™ Acquires the World-Class Certification for Safe Textile Products "STANDARD 100 by OEKO-TEX®"



Kyoto October 23, 2024 – Bioworks, Corporation has obtained the internationally recognized "STANDARD 100 by OEKO-TEX®" certification for its plant-based next-generation synthetic fiber "PlaX™" in both staple fibers and filaments. The certification was awarded for product class I (for baby products), which ensures it meets the highest global standards for safe textile products.

Background of Acquiring "STANDARD 100 by OEKO-TEX®"

According to the United Nations Conference on Trade and Development (UNCTAD), The apparel industry is often cited as the second-largest global polluter, with issues such as CO2 emissions and the release of harmful chemicals leading to water and air pollution.

*1

Addressing these issues requires not only reducing CO2 emissions but also minimizing health risks to humans. In response, many countries have been strengthening

regulations related to chemical substances used in apparel products.

In Europe, where regulations surrounding sustainability are particularly strict, the implementation of the REACH regulation*2 has expanded obligations for registering information on chemicals throughout the supply chain, and safety assessment criteria have become more stringent. Given that textile products come into direct contact with human skin, there is increasing demand from both businesses and consumers for transparency regarding the use of hazardous chemicals.

Bioworks, with its sustainability vision of creating "A new ecosystem where the joy of creating and the prosperity of wearing continue," is promoting the transition to a sustainable apparel industry through the development of its plant-based next-generation synthetic fiber, PlaX™.

To date, PlaX™ has begun to be adopted by various brands with the goal of replacing 10% of polyester's expected annual production growth from 2024 to 2030.

As Bioworks presents PlaX™ to companies and brands domestically and internationally, there has been an increasing demand for proof of the absence of hazardous substances. To support global expansion and provide companies and consumers with greater confidence in its materials, Bioworks has obtained the "STANDARD 100 by OEKO-TEX®" certification, which also complies with REACH regulations.

Bioworks will continue to contribute to the sustainability of the apparel industry and the planet by building a new ecosystem that accelerates circularity and decarbonization, with a focus on the research and development of PlaX™.

*1 Reference: [[United Nations News](#)]

*2 The REACH regulation (Registration, Evaluation, Authorisation and Restriction of Chemicals) is the law governing the registration, evaluation, authorization and restriction of chemical substances in the European Union. It aims to improve the transparency of information about chemicals and promote the use of safer alternatives.

STANDARD 100 by OEKO-TEX®

The "STANDARD 100 by OEKO-TEX®" certification acquired by Bioworks is an internationally recognized certification for textile products that meet stringent safety standards. The certification is awarded only to products that pass analytical testing for

over 1000 harmful chemical substances at authorized testing institutions belonging to the OEKO-TEX® International Community.

The certification is categorized into product classes I–IV based on the intended use, with different regulatory values set for each class. Bioworks has acquired the most stringent Annex 6 product class I, which applies to products for infants up to 36 months of age that come into extensive contact with the skin.



Certification Details

- Certified Product Name: PlaX™
- Certification Category: Fibres (filament, staple) made of 100% polylactic acid, (PLA)
- Product Class: I (for baby products)- Annex 6
- Certification Date: October 2, 2024

Comment from Bioworks Executive Officer and CSuO Sumika Tabara



In the apparel industry, various standards and certifications exist to prove sustainability from different perspectives.

Among the numerous certifications, the reason we pursued and obtained "STANDARD 100 by OEKO-TEX®" is that proving the absence of hazardous substances is critical for building the "trust foundation" for distributing PlaX™, a new material, globally.

Moving forward, we will promote activities that enhance transparency regarding the sustainability of PlaX™ and contribute to sustainable manufacturing practices through the expansion of PlaX™ distribution.

About PlaX™

PlaX™ is a textile material that enhances the quality and functionality of polylactic acid (PLA), a biomass material derived from plants like sugarcane, by incorporating our proprietary plant-based additive. As a substitute for petroleum-based synthetic fibers like polyester, it contributes to lower carbon emissions and reduced environmental impact, making it a versatile material gaining global attention.

How We Address Environmental Impact

- **CO2 Emissions** : Our plant-based synthetic reduces CO₂ emissions by 41% compared to polyester, as it doesn't rely on petroleum.
- **Water Usage** : PlaX™ consumes 90% less water than cotton, requiring only 65 liters to produce 1 kg, compared to cotton's 606 liters.
- **Biodegradability** : PlaX™ is biodegradable in certain circumstances, breaking down into water and CO₂.
- **Chemical Recycling** : We plan to establish a closed-loop recycling process, allowing PlaX™ to be continually regenerated, minimizing waste.

About Bioworks

Bioworks is a material creation company with a vision to build a "new ecosystem where the joy of creating and the richness of wearing continues." The company manufactures and sells the next-generation plant-based synthetic fiber "PlaX™," made from polylactic acid (PLA). Since its founding in 2015, Bioworks has leveraged its expertise in PLA research and development and expanded into the textile business in 2021. The company's material is attracting attention from both domestic and international textile industry as a significant contributor to reducing reliance on petroleum-based resources.

Bioworks Corporation

Representative Director and CEO : Koji Sakamoto

Headquarters: Kyoto, Japan

Business Activities: Manufacturing and sales of modified polylactic acid compounds (PlaX™) and products, businesses to promote resource recycling, etc.

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