

Preferred material verification - Biobased materials



ENSURE THE VALIDITY OF BIOBASED CLAIMS WHEN SELECTING MATERIALS

Sustainability is a critical challenge for the apparel and footwear industries. Addressing greenhouse gas emission and reducing resource overuse present transformative opportunities for the sector and the planet. Embracing preferred materials, particularly biobased ones, is a key strategy to drive this change.

Biobased materials are wholly or partly derived from renewable biological resources such as plants, fungi and agricultural waste, excluding fossil fuels and geological sources. They have various applications, including textiles, chemicals and packaging and offer a more sustainable alternative to traditional materials.

While biobased materials are derived from renewable sources, their biodegradability varies based on factors such as chemical composition, processing techniques, and the use of additives. Despite this, they offer significant economic, social and environmental benefits. They drive innovation to address urgent challenges like climate change, foster greener industries, and support the transition to a circular and resilient economy.

Service expansion

At the end of 2024, we expanded our radiochemistry testing capabilities with the acquisition of Miami-based Beta Analytic, a global leader in 14-Carbon age dating and biobased/biogenic product validation. This acquisition increases our overall capacity for providing high-value testing solutions that address both current and future environmental challenges.

SGS/Beta Analytic biobased materials verification service

We employ advanced 14-Carbon isotope analysis to verify the biobased content of materials. This scientific approach confirms the renewable biological origin of materials by detecting the presence of 14-Carbon, a marker of recent atmospheric CO₂ absorption. Fossil-based sources, being older than 20,000 to 30,000 years, contain no detectable 14-Carbon.

In addition to radiocarbon analysis, we also offer a range of assessment solutions, either onsite or through document reviews, to enhance the transparency and traceability of sourcing practices.

TEST ITEMS	TEST METHOD	REQUIREMENTS	RESULT
Biobased carbon content determination using radiocarbon analysis	ASTM-D6866/ EN 16640/ ISO 16620-2	≥ 20% biobased carbon content	% of biobased carbon content in the product

Benefits

- Sustainability validation – demonstrate your commitment to renewable resources and reduce dependency on fossil-based materials
- Market differentiation – gain a competitive edge by promoting biobased content in your products.
- Enhance transparency – improve traceability and sourcing credibility through robust verification practices

WHY CHOOSE SGS?

We are the world's leading testing, inspection and certification company. With a global network of state-of-the-art laboratories and a team of dedicated professionals from diverse disciplines, we deliver comprehensive physical, chemical and functional testing for components, materials and finished products. Our expertise ensures your company meets the highest standards of quality, safety, sustainability and compliance with international, industrial and regulatory requirements. In the end, it's trusted because it's tested.

For more information or support regarding program development, please contact: Global.SL.DAMO.Platform@sgs.com