CUSTOMIZED SOLUTIONS

Schill+Seilacher struktol®

SILASTOL BIO: Sustainable Functionalization of Nonwoven Materials

In the ever-evolving world of materials science, the need for sustainable and high-performance solutions is of great importance. Nonwoven materials, which are widely used across industries such as hygiene, medical, automotive, and textiles, are no exception. Often, nonwoven materials need to be functionalized to improve their properties, whether it is to enhanced durability, moisture management, or antimicrobial effect. The SILASTOL BIO product line offers a sustainable solution for nonwoven functionalization, providing permanent hydrophilicity to the functionalized materials. Those functionalized materials are intended to be used in personal care applications such as diapers, feme care products, napkins and many more.

What is SILASTOL BIO?

SILASTOL BIO developed by Schill + Seilacher is a finish agent that is based on bio-based raw materials specifically designed to functionalize nonwoven materials made from polyolefins. Due to its advanced chemical structure, SILASTOL BIO provides excellent hydrophilicity to nonwoven fabrics ensuring quick and durable liquid absorbency. The results in the table (next page) show comparable results to well-establish products. Furthermore, SILASTOL BIO is free from silicones and consists solely of non-ionic surfactants with excellent wetting properties to ensure homogeneous functionalisation.

SILASTOL BIO

Key Benefits of SILASTOL BIO for Hydrophilization of Nonwoven Materials

- **Eco-friendly and Bio-based**
  SILASTOL BIO is derived from renewable sources, making it an ideal choice to reduce the environmental impact of functionalized nonwovens for personal care applications.
- **Performance without Compromise**
  This bio-based finish agent provides a sustainable solution without compromising on performance, such as treated nonwovens exhibit excellent hydrophilicity.
- **Improved Comfort**
  Nonwoven materials finished with SILASTOL BIO maintain soft hand-feeling and therefore increasing wearability for end-users.

Analysis of hydrophilic Performance of SILASTOL BIO on functionalized Nonwoven Materials

	Ionity	1st strike through [s]	2nd strike through [s]	3rd strike through [s]	Rewet [g]
Target values		≤ 2	≤ 3	3.5 - 5	≤ 0.3
SILASTOL BIO 223	non-ionic	1.81	3.07	3.35	0.16
SILASTOL reference A	anionic	1.59	2.67	3.00	0.12
SILASTOL reference B	non-ionic	1.99	3.00	3.34	0.14

measured on PP/PE 20gsm spunbond nonwoven material; add-on level (oil pick up) = 0.50%
strike-through and rewet are measured according to EDANA method ERT 153.0-02 and ERT 151.3-02

Conclusion

SILASTOL BIO is a versatile and sustainable solution for the functionalization of nonwoven materials. Its ability to provide excellent hydrophilic properties and soft hand-feeling makes it an invaluable tool across various personal care application. SILASTOL BIO offering manufacturers a pathway to create products that are not only high-performing but also reduce their environmental impact.

Rev.: 08.2025

For more information please contact:

Schill + Seilacher GmbH
Schönaicher Strasse 205
71032 Böblingen / Germany
Phone: +49 7031 282-0
E-Mail: CHM@schillseilacher.de

schillseilacher.de