ZIM
Zentrales Innovationsprogramm Mittelstand

Supported by:
Federal Ministry for Economic Affairs and Energy
on the basis of a decision by the German Bundestag

Development of an analytical method for testing the purity of recycled textiles

The circularity of textiles represents both a major problem and an opportunity. Due to the currently still low recycling rate of textiles, they end up as waste, although they could actually be a valuable secondary raw material. For the successful and value-preserving recycling of textiles, it is best to know which ingredients they contain. Foreign and harmful substances must also be analytically identified and the textiles appropriately get sorted.
The TED-GC/MS method can provide a correspondingly precise analysis, which is why this method is examined in more detail in the project. However, the method is very expensive and for this reason has not yet been used in the textile industry, which is why textiles are increasingly being downcycled. The aim of the project is to develop a TED-GC/MS analysis optimized for the textile industry, with which the purity of textiles as well as the detection of foreign and additives can take place.
In addition, an acoustic textile made of recycled polyester fibers is being developed that emits little to no microplastics and at the same time attracts and binds airborne microplastics. The purity of the textile will be tested using the newly developed analysis method.

Project partners / funding

The research project is being carried out in cooperation with imat-uve GmbH, Gerstel GmbH & Co. KG, Recytex GmbH & Co. KG and the Institute of Textile Technology at RWTH Aachen University.

Duration

24 Month (01.02.2021 – 31.01.2023, extended until 31.05.2023).

Acknowledgements

The ZIM cooperation project AnReTex is funded by the Federal Ministry of Economics and Climate Protection (BMWK) on the basis of a resolution of the German Bundestag Development of an analytical method for testing the purity of recycled textiles.

Contact

Dr. Jens Meyer

- Raum: Z 113 (Gebäude Z, 1. OG)
- Telefon: +49 2161 186-6084
- jens.meyer(at)hs-niederrhein.de

Prof. Dr.-Ing. habil. Maike Rabe
Head of research institute "FTB
Textile finishing and ecology

- Raum: Z 110
- Telefon: +49 2161 186-6110
- maike.rabe(at)hs-niederrhein.de

Irina Singer, M. Sc.
FTB, Research associate
Raum: Z 113 (Richard-Wagner-Str. 97)
Telefon: +49 2161 186-6099
irina.singer(at)hs-niederrhein.de