

DIN SPEC 4872

Standardized test method for the determination of the environmental impact of textiles during washing – fiber release · biodegradability · ecotoxicity

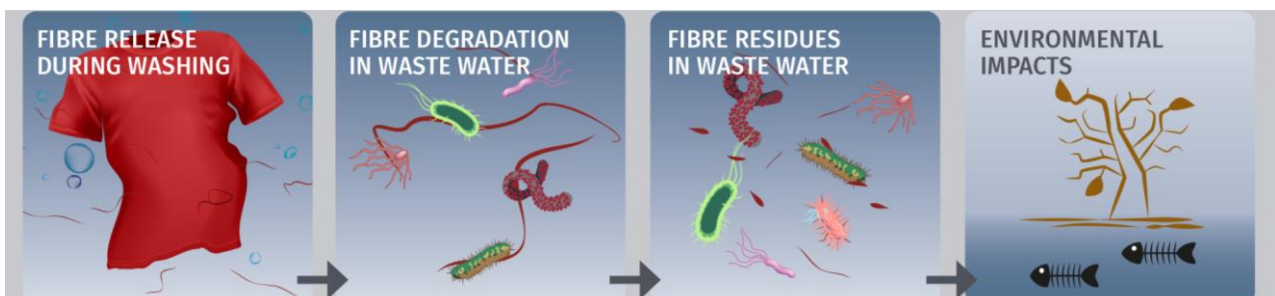
Microplastics are now one of the most pressing problems, as they have a negative impact on the environment. Studies have shown that even when textiles are washed, fibers on the scale of microplastics are released that cannot be retained by sewage treatment plants. The test method is used to investigate how many fibers are discharged when textiles are washed, how well these fibers degrade in wastewater and how harmful the fiber residues are to the environment.



Description

DIN SPEC 4872 is a standardized test method for determining and classifying the environmental impact of textiles during washing. In addition, we check the biodegradability of the fiber abrasion in wastewater (DIN EN ISO 14851) and determine the degree of degradation within a defined period. Finally, an ecotoxicity test (DIN EN ISO 20079:2006-12) is conducted to determine the toxicity of the fiber residues after the biodegradation process.

Once the test procedure has been completed, we assign a classification code that reflects the degree of fiber discharge, the biodegradation rate and the ecotoxicological potential of the textile product. The aim of this classification is to provide reliable data for optimization of the product portfolio and targeted product development enables active and conscious control or prevention of environmental pollution.



The test method is particularly suitable for:

Textile fabrics (weaving/knitting/knitted fabrics and nonwovens)

Your Benefits

- Objective measurement of fiber release during washing, biodegradability and ecotoxicological potential of fiber residues
- Evaluate, compare and improve your product portfolio
- Determine the benefits and risks of your products to the environment

Test Standards

DIN SPEC 4872 was developed based on the following standards:

- DIN EN ISO 14851, Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium - Method by measuring the oxygen demand in a closed respirometer
- DIN EN ISO 20079:2006-12, Water quality - Determination of the toxic effect of water constituents and waste water on duckweed (Lemna minor) - Duckweed growth inhibition test (ISO 20079:2005); English version EN ISO 20079:2006
- ISO 4915, Textiles - Stitch types - Classification and terminology
- ISO 4916, Textiles - Seam types - Classification and terminology

Test Criteria

We assess the fiber abrasion during textile laundering, the biodegradability of the fiber abrasion in percent after a defined time period and the ecotoxicological safety of the fiber residues after biodegradation.

Requirements for Samples

General

- Exact product name, article number and material composition of the test sample.
- Different colours of identical samples must be tested separately, Surface material: at least 0.5 m² or 20g

Test Duration

Usually 10 weeks

Marketing instruments – Label and Certificates

If the ecotoxicological test is passed, the Hohenstein quality label and/or a certificate can be applied for. The label/certificate is valid for 1 year and must then be recertified with a declaration of conformity. After 2 years, a new full test takes place.

