

Press Release



To minimize microplastics from polyester fabrics getting in the ocean, and posing a threat to the marine environment, the production design of polyester fabrics needs to change. Mistra Future Fashion now release new findings where their researchers and industry partners have investigated the relation between fabric properties and shedding for polyester fabrics, and thereby contribute to fill current research gap.

Stockholm, June 15th 2017. Micro-sized particles of plastics, so called “microplastics” have turned out to be an environmental problem in marine and coastal waters. The oil-based microplastic particles attract contaminants that are normally not soluble in water. When the microplastics enter animals and plants in the aquatic environment, they bring contaminants with hazardous properties with them. The relation between polyester fabric properties and microplastics shedding has now been analyzed. A new report from Mistra Future Fashion, conducted by researchers at Swerea IVF, describes an experimental evaluation of whether the shedding of microplastics from different types of polyester fabric is dependent on construction parameters. The project involved three companies: H&M, Filipa K and Boob Design.

Preliminary *findings* are that the risk for microplastics shedding from garments is reduced if:

- Brushing is reduced
- Ultrasound cutting is applied in the cut & sew process
- Microparticles on fabrics are removed already at the production stage

The study showed no support for the assumption that fabrics made of recycled polymers shed more than fabrics made of virgin polymers. It might instead be assumed that the concern that fleece material from recycled polyester is a main cause to the microplastics problem, is explained by the fact that fleece is a material that has traditionally been made from recycled polyester bottles.

The three most important *recommendations* based on the project finding are:

- Remove microparticles, regardless of origin, from fabrics already at the production stage as point source emissions are easier to manage than diffuse emissions during the use phase.
- Differentiate between fibres and other microparticles that shed from fabrics:
 - The test method need to be able to distinguish what type of micro-sized particle is included in the figures
 - Investigate whether fibres or other microparticles are most relevant for the environmental impact
- Develop a standardized test method for microplastics shedding from fabrics. The experiences from method development in this project can be used for future work with development of a standardized method.

“.....There are some alarming statements that microplastics shedding could be linked to polyester fabric from for example recycled PET-bottles, and we wanted to verify if this was true. Our study shows though that there is no supporting evidence for this assumption. ”

Dr Sandra Roos at Swerea IVF

When microparticles are collected (preferably using dry methods) they should be disposed of in a safe way.

Since there is no standardized test method, the first part of the project consisted of developing a trustworthy method. More research needs to be carried out to corroborate the findings of this study.

Read the report: [Microplastics shedding from polyester fabrics](#)

For more information:

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