

SIILICA FOR ECO-FRIENDLY LAUNDRY DETERGENTS

AEROSIL® 

SIPERNAT® 

ZEOFREE® 



AEROSIL®, SIPERNAT® and ZEOFREE® are nature-identical alternatives to microplastics in laundry.

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Action against microplastic pollution

Although it has long been proven that microplastics represent a significant environmental problem and accumulate in both human and animal organisms, synthetic polymers are still added to liquid detergents and washing powders, for example as abrasives, thickening agents, color protectors or fragrance encapsulates.

The European Union is preparing a law to ban solid, water-insoluble synthetic polymers, including their use in detergents. Environmentally conscious consumers are already looking for microplastic-free laundry products, but they do not want to compromise on cleaning efficacy and product quality. Therefore, the detergent industry needs to develop new formulations with non-hazardous active ingredients as an alternative to synthetic polymers.

Silica for eco-friendly laundry detergent formulations

Silica from Evonik is a naturally derived mineral according to ISO 16128-2. Once released into the environment, no distinction can be made between Evonik's silica and naturally occurring SiO₂ in minerals or plants. These amorphous, highly pure, and safe to use ingredients are a proven and cost-efficient alternative to microplastics in various applications.

Evonik offers a broad range of different silica products with various particle sizes and properties for different functions. They provide the detergent industry with a toolkit for reformulating laundry powders and liquids, aimed at the needs of next-generation eco-friendly laundry products: without microplastics but with excellent performance.

Effects of silica in powder laundry detergents

- Abrasive
- Opacifier for pure whiteness
- Anti-caking agent
- Carrier for fragrances

Effects of silica in liquid laundry detergents

- Abrasive
- Opacifier for creamy, milky appearance
- Thickener
- Carrier for fragrances

Additional effects of silica in liquid laundry caps and pods

- Anti-sticking agent in water-soluble, biodegradable film

The Silica specialists at Evonik – Inside, to get it right.

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Microplastic pollution caused by laundry detergents

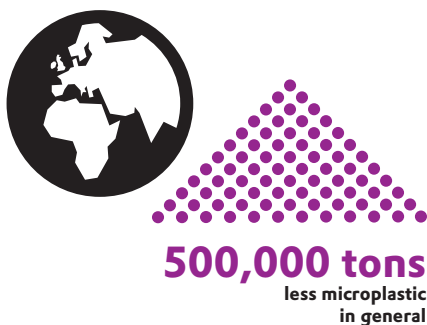
In a test conducted by the Austrian environmental organization Global 2000 in 2021, nearly two-thirds of 256 laundry detergents (liquids, powders, caps and pods) tested contained microplastics. Solid microplastics were found in 6% and water-soluble synthetic polymers in 55% of these products.

According to the European Chemicals Agency (ECHA), roughly 17,000 tons of microplastic particles are used in detergents and maintenance products every year in the EU alone, and 8,500 tons are released into the environment.*

This takes into account that the use of microbeads in laundry products has decreased continuously and is expected to be phased out soon, since a range of alternatives are available for microbeads used as abrasives, such as silica.

*<https://echa.europa.eu/documents/10162/b56c6c7e-02fb-68a4-da69-0bcbd504212b>

Potential effect of a ban on microplastics



would pollute the environment over a 20-year period following restriction on intentional uses of solid microplastics in products placed on the EU/EEA market.

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Evonik Operations GmbH
Silica business line
Rodenbacher Chaussee 4
63457 Hanau
Germany
Phone +49 6181 59-12532
Fax +49 6181 59-712532
ask-si@evonik.com
www.silica-specialists.com

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