

# SILICA FOR LAUNDRY DETERGENTS WITHOUT MICROPLASTICS

AEROSIL®



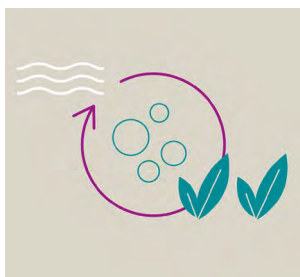
SIPERNAT®



SPHERILEX®



ZEOFREE®



## ACTION AGAINST MICROPLASTIC POLLUTION

It has long been proven that microplastics represent a significant environmental problem and accumulate in both human and animal organisms. The European Union restricted microplastics under the EU chemical legislation REACH. Commission Regulation (EU) 2023/2055 bans the use of organic, insoluble synthetic polymer particles intentionally added. This applies to liquid detergents and washing powders with synthetic polymers as abrasives, thickening agents, color protectors or fragrance encapsulates.

During the transition period until 2028, the detergent industry needs to develop new formulations with non-hazardous alternatives to synthetic polymers.

## Home Care

**AEROSIL®**, **SIPERNAT®**, **SPHERILEX®** and **ZEOFREE®** are nature-identical ingredients according to ISO 16128-2. Used as abrasives, anti-caking and free flow agents, thickeners, or carriers, they offer an alternative to polymers in laundry formulations.

## SILICA – A NATURE-IDENTICAL INGREDIENT FOR LAUNDRY DETERGENTS

Silica from Evonik is a safe, proven and cost-efficient alternative to microplastics in various applications. Synthetic amorphous silica is a naturally derived mineral according to ISO 16128-2, which provides guidelines on definitions and criteria for natural and organic cosmetic ingredients. Once released into the environment, no distinction can be made between Evonik's silica and naturally occurring  $\text{SiO}_2$  in minerals or plants.\*

Evonik offers a broad range of 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 without microplastics, while maintaining high cleaning performance.

## SMART EFFECTS OF SILICA IN LAUNDRY DETERGENTS

### Powder detergents

- Abrasive
- Opacifier for pure whiteness
- Anti-caking and free flow agent
- Carrier for fragrances

### Liquid detergents

- Abrasive
- Opacifier for creamy, milky appearance
- Thickener with thixotropic behavior
- Carrier for fragrances

### Liquid caps and pods

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

## 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.\*\*

**The Silica and Silanes experts at Evonik – From elements to excellence.**

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

## POTENTIAL EFFECT OF THE BAN ON MICROPLASTICS IN EUROPE



**500,000 metric tons**  
less microplastic  
in general



**119,000 metric tons**  
less microplastic  
from detergents

Restrictions on the intentional use of solid microplastics in products placed on the EU/EEA market would reduce the amount of microplastics in general, and microplastics in detergents, by 500,000 metric tons and 119,000 metric tons respectively over a 20-year period.

### Evonik provides comprehensive life cycle assessment (LCA) for silica products.

- \* [https://products.evonik.com/assets/42/47/Flyer\\_13\\_Biodegradable\\_evonik\\_silica\\_natural\\_geological\\_cycle\\_EN\\_Asset\\_874247.pdf](https://products.evonik.com/assets/42/47/Flyer_13_Biodegradable_evonik_silica_natural_geological_cycle_EN_Asset_874247.pdf)
- \*\* [www.global2000.at/sites/global/files/Report-Waschmittel-Test-2021.pdf](http://www.global2000.at/sites/global/files/Report-Waschmittel-Test-2021.pdf)
- \*\*\* <https://echa.europa.eu/de/hot-topics/microplastics>

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