

Knocking nanoparticles off the socks

October 28 2009



In a finding with important environmental implications, scientists are reporting how silver nanoparticles used in anti-odor socks come off during laundering. Credit: Wikimedia Commons

Scientists in Switzerland are reporting results of one of the first studies on the release of silver nanoparticles from laundering those anti-odor, anti-bacterial socks now on the market. Their findings, scheduled for the Nov. 1 issue of ACS' journal *Environmental Science & Technology*, may suggest ways that manufacturers and consumers can minimize the release of these particles to the environment, where they could harm fish and other wildlife.

In the study, Bernd Nowack and colleagues note that widespread use of [silver nanoparticles](#) in consumer products, especially textiles, likely results in the distribution of nanoparticles in lakes and streams. Manufacturers favor silver nanoparticles because of their antibacterial

action, which slows the growth of odor-causing bacteria. The scientists studied release of [nanoparticles](#) in laundry water from nine different textiles, including different brands of commercially available anti-odor socks. Previous studies laundered socks, but in pure distilled water.

They found that most of the released particles were relatively large and that most came out of the fabrics during the first wash. The total released varied from 1.3 to 35 percent of the total nanosilver in the fabric. Bleach generally did not affect the amount released. "These results have important implications for the risk assessment of silver [textiles](#) and also for environmental fate studies of nanosilver, because they show that under certain conditions relevant to washing, primarily coarse silver-containing particles are released," the paper says.

More information: "The Behavior of Silver Nanotextiles During Washing", *Environmental Science & Technology*, [pubs.acs.org/stoken/presspac/p ... ll/10.1021/es9018332](https://pubs.acs.org/stoken/presspac/p...ll/10.1021/es9018332)

Source: American Chemical Society ([news](#) : [web](#))

Citation: Knocking nanoparticles off the socks (2009, October 28) retrieved 20 March 2024 from <https://phys.org/news/2009-10-nanoparticles-socks.html>

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