

Toward perfumed-clothing: Fabric-friendly 'microcapsules' hide unpleasant body odors

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Researchers in Portugal are reporting development of a new type of "microcapsule" filled with perfume and embedded in fabric for production of scented suits, socks, undergarments and other clothing.

The same technology can be used in many other applications, such as to mask unpleasant body odors when using textile products. They describe the material, which is also environmentally-friendly, in a report scheduled for the July 2 issue of *ACS' Industrial & Engineering Chemistry Research*.

In the new study, Alirio E. Rodrigues and colleagues point out that microcapsules, or submicroscopic shells, have been used for years to deliver fragrances in commercial products ranging from scratch-and-sniff stickers to the peel-apart fragrance samples found in magazine inserts.

But current microcapsules are made using formaldehyde, a known cancer-causing agent that is also an environmental hazard. Safer, more effective materials are needed to extend this scented technology to textiles, the researchers say.

The researchers identified polyurethane-urea, a type of environmentally-friendly plastic that is compatible with fabrics, as a solution. They used the material to prepare microcapsules containing limonene, the familiar scent abundant in lemons and widely-used in perfumes, and applied the capsules onto wool and polyester samples. In laboratory tests, the

microcapsules showed good performance in terms of prolonged fragrance production and durability, the researchers say.

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