Active substances encapsulated by Electro-Hydrodynamic techniques. Textile applications

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We present a novel method based on electro-hydrodynamic (EHD) techniques to produce micro or nanocapsules of active substances, suitable for applications in many industrial sectors.

To from the capsules, the technique starts from dissolutions of the shell and of the active substance. The EHD processes those fluids into capsules with a variety of shapes and structures. The shapes may range from spheres to fibres, with diameters that may vary from tens of nanometres up to tens of microns, whereas the inner structures may be porous, composite, hollow, core-shell and also, in the case of fibres, bi-channel or even multi-channel. Size, shape and structure may be tuned by adjusting the fluid properties and setting the appropriate process controlling parameters.

We present a broad spectrum of examples, including some for textile, smart packaging, food and material applications, among others.

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