

New Microcapsule Technology: Enabling a Future of Safer Laundry Products and Cleaner Oceans.

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Abstract:

Novel microencapsulation technology is presented which enables active ingredients to be fully protected in a formulation against degradation in extreme temperature conditions, and then delivers the ingredients at the optimum time and site of action. It soon became apparent that this technology developed in academia, could present massive benefits to many other ingredients and many markets such as home and fabric care, agriculture, paints and coatings, adhesive and sealants, lubricants and fuels, and advanced materials markets, advancing the performance of formulated products with a new generation of disruptive products that are safer and environmentally sustainable, whilst at the same time advancing the performance by decades.

At the RSC Symposium, the technology will be exemplified by presenting this perfectly sealed biodegradable fragrance microcapsule technology for laundry care products.

Today, all major laundry care products contain fragrance microcapsules. They protect the fragrance against evaporation during storage, target the fragrance to the fabric during the wash cycle, and deliver the fragrance throughout the day providing long-lasting freshness to clothes. However, the problem is that all current microcapsules are made of non-biodegradable materials, which contribute >1000s of tonnes of bio-accumulative micro-plastics to the oceans every year, destroying the aquatic ecosystem and introducing toxic ingredients to the food chain. To help solve this problem, the EC is preparing a ban on all non-biodegradable microcapsules in laundry care products from 2022. This creates a new critical pain point for laundry product manufacturers...How can they eliminate their non-biodegradable microcapsules, whilst at the same time maintaining the expected level of long-lasting freshness of their products?

Technology will be presented that addresses both of these pain points, by proving the solution to maintain long-lasting freshness with half the amount of fragrance compared to existing technologies, with capsules that comply with the new EU regulation, thus preserving the oceans from micro-plastics.