

What does a truly eco-friendly product look like? You might be surprised!

Speakers: Denis O'Sullivan and Antonio Quintieri (Procter & Gamble)

Many so-called Eco-products are watery, weak liquids formulated to seem “natural” and “not chemical”. But Life Cycle Analysis shows that this thinking is backwards. A truly eco-friendly product should be highly compact and powerful. And it would probably seem “chemical”.

Why? A consumer needs a certain level of performance ingredients (chemicals, like surfactants) to achieve a particular task. If the product is dilute, it just means the consumer needs to use more.

The most sustainable product is the one which can achieve the consumer's task with the minimum of environmental impact. And most of the environmental impact actually comes from shipping, from packaging, from in-home usage (e.g. hot water use in laundry).

Our analyses show that it is a product formulated to minimise shipping and packing waste by eliminating or minimising non-functional ingredients (like water), and minimise in-home energy usage, that is truly a sustainable product. If done right, concentrated products also help economically, reducing the cost of packaging and transportation. So it's a win/win situation.

But it's hard! Making a stable, high-performing product with very little water is a tough technical challenge for both formulators and engineers. Process intensification is a key approach to making this possible, for example by enabling the high-energy, high-shear-rate environments in which highly concentrated and viscous fluids can be handled, or by enabling the incorporation of specific, difficult-to-handle active ingredients which provide the required performance benefits in an environmentally friendly way.

In this talk we'll discuss how we analyse the sustainability and environmental impact of products, and how we use process intensification to create more sustainable products.

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