

Innovating Cosmetic Surfactants beyond 'Sulphate-free'

BACKGROUND - There has been a significant rise in 'sulphate-free' cosmetics in the personal care industry over recent decades. This trend demonstrates the growing development of 'natural' and diversified cosmetics, however, this backwards mindset has potentially stalled new product development and innovation for the industry.

In the global cosmetics industry, surfactants like Sodium Lauryl Sulphates (SLS) / Sodium Lauryl Ether Sulphates (SLES) have developed negative associations. Tags like 'sulphate-free' imply a mild, natural and greener product. The discourse on this topic is extensive, with opinions varying from marketing/consumer misconception to valid scientific evidence. Regardless, these ingredients are associated with labels of 'unnatural' and 'harmful'. These opinions are supported by bans of components like 1,4-Dioxane in some American states, a potential carcinogen that is a by-product in sulphate formulations.

Sulphates remain the primary surfactant in personal care. There have been barriers facing products that have strived to replace sulphate-based surfactants and replicate their five key responsibilities: **cleaning, foaming, rheology control, skin mildness and polymer deposition**. Sulphates are easily compatible with secondary surfactants like Betaines or Alkyl Polyglucosides (APGs), additions of fragrances, synthetic boosters and salt are also relatively inexpensive whilst improving performance.

Milder cosmetic alternatives are available for specific markets, like extra-sensitive skin, but are more expensive whilst not offering the same performance. Replica formulas require additions and secondary surfactants which, alongside development and production, increases the end price. Consumers in personal care are growingly concerned with sustainability, animal welfare, biodegradation, and 'natural' materials. However, these product points are seen as luxury purchase to a small segment of consumers, with the majority prioritising price.

Loss of interest?

The novelty of the sulphate-free surfactant has arguably worn off, with the premium status and innovative tag fading away, despite the seemingly permanent negative framing of SLS/ SLES surfactants.

To successfully replace sulphates, a new primary surfactant needs to clean efficiently and match or improve the key properties of surfactants at an affordable price. These markers include **flexibility in formulations, mildness, foaming and lather, natural, friendly and certified**.

Flexible formulations are of growing importance in cosmetics. Primary surfactants are needed market-wide that are compatible with other co-surfactants and avoid negative results like irritation, which was a key factor in the negative perception of Sulphates. Mildness is essential to avoid disrupting skin pH which negatively effects the skin barrier, causing inflammation. Part of this responsibility includes modernising production methods to reduce any contamination or irritants.

Foaming has had historical importance to consumers in surfactants, providing the perception of quality and premium. Foaming is the result of surfactant blends, with alternatives yet to replicate foaming at a sufficient scale. Similarly, a strong lather provides the impression of efficient cleaning and quality.

Producing 'natural' products requires both science and consumer intuition. There are essential areas to meet, such as sourcing increasingly naturally derived ingredients, reducing unsustainable production in palm oil, eliminating synthetics and more. There is an expectancy to improve biodegradation profiles, reduce water usage and eliminate animal cruelty & testing.

The Future for Surfactants

The next step is to focus on the future of surfactants, rather than the past.

This means developing innovative surfactants, such as Libra Speciality Chemicals' Low-Salt Cocamidopropyl and Laurylamidopropyl Betaine.

This Low-Salt range is a step forward for cosmetics products and is an example that high-performance cosmetics do not need to rely on the 'sulphate-free' tag.

These speciality surfactants provide a new option to consumers, and eliminates choosing between key-feature performance, price or environmental awareness. Instead, this is a surfactant that matches sulphates in flexibility and price across a wide range of applications, whilst improving certain properties like foaming. A unique formulation that reduces the need for secondary additions and thickeners, which are salt-sensitive and reduce viscosity. Its production eliminates animal cruelty and improves product compliance to multiple lifestyles.

Libra's Low-Salt Betaines are already distributed from a state-of-the-art plant in North England and used globally, supported by assurances provided through multiple certifications and accreditations of performance, efficiency, and natural profile. Overall, this is an example of a product in an industry that strives to **innovate, not substitute**.

To find out more about the innovation and applications of our primary surfactants, visit <https://librachem.co.uk> or contact us at communications@librachem.co.uk