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Water-conscious cosmetics are making a splash

Formulations – Water is an increasingly precious resource. As a result, waterless beauty products are gaining popularity. Dr Natalia Chudinova shares expert insights and talks about creating product formulas that meet the increasing demand for water-conscious solutions.

Dr Natalia Chudinova, Marketing Manager Market Development Face and Skin Care, BASF, Monheim am Rhein, Germany, www.basf.com

COSSMA: Why is water now such a precious resource?

Dr Natalia Chudinova: It may sound strange to talk about water as a precious resource, because about 70% of our planet’s surface is covered by water. Freshwater in contrast to salt-water, however, is very rare. That’s the water we drink, wash with, and use to irrigate crops. Only 2.5% of the water on Earth is freshwater, and most of it is not accessible because it is locked up in frozen glaciers, deep in the ground or unavailable for other reasons. Just 1.2% of freshwater is located on the planet’s surface, and it must meet all our needs.

Today, many people around the globe are struggling to access enough...
freshwater. 1.1 billion people lacked access to water in 2020, while 2.7 billion people find water scarce for at least one month per year. By 2050, it is estimated that 52% of the world’s population will live in regions that are water-stressed.

Added together, the scarcity of freshwater, the planet’s growing population and the increasing impact of climate change are creating a global water crisis.

Why is this relevant for cosmetic products?

Many cosmetic products contain large quantities of water. Many shampoos, shower gels and hand soaps contain up to 95% water, for example, while cream lotions and masks are made of 60 to 85% water. These amounts are necessary to ensure the products have the textures, performance, etc. consumers like, but also because formulating without adequate amounts of water can be difficult, e.g., some ingredients need to be dissolved in water. With consumers sharpening their focus on water, cosmetics manufacturers are increasingly looking for innovations that can minimise the amount of water contained in cosmetic products. More and more products are being marketed with a claim of being “waterless”, and this rising trend is going to shape the cosmetics market in the coming years.

What is driving this trend for waterless products and how is the market responding?

Currently, the trend is being turbo-charged by consumer preferences for more eco-conscious lifestyles. 25% of consumers aged 25 to 34 in the USA, for example, worry about the environmental impact of their skincare products. A combination of the global water crisis, the broader trend for sustainability and consumer eco-consciousness have led to the rising popularity of cosmetic products with waterless claims. In this context, “waterless” means products that do not contain water but also products with a reduced water content. The global market for waterless cosmetics is expected to reach $8,991 million in 2021, and experts predict a Compound Annual Growth Rate (CAGR) of 13.3% between 2021 and 2031.

What are the advantages of water-conscious product formulas?

Some waterless products require less energy during manufacturing because they, for example, can reduce the need for heat or enable producers to eliminate some process steps. In addition, it may also be concluded that waterless products can help cut emissions during transport because they are more compact, so more products fit onto a vehicle and fewer vehicles are needed. Moreover, waterless products can be packaged in paper or are offered in packaging-free formats, which helps reduce plastic use and packaging waste. For the individual consumer, convenience is a big advantage. Since waterless products can be packaged with smaller volumes and weight, the small package size can make products more convenient to carry when traveling. And since water is added by the consumer when needed, many waterless products can be customised to fit the individual’s specific preferences (rich or light) and skin type (dry or normal) or serve multiple different application needs (face cream or body lotion).

Can water-conscious cosmetics really have a positive impact on the environment?

It is true that waterless or water-conscious cosmetics cannot solve water scarcity as such. We still need water during the manufacturing process and for some of the formulations, consumers also need to add water when applying the final product.
But they need considerably less water for application than a conventional formulation would contain. For our waterless emulsion base, for example, consumers need to add only two to five droplets of water to transform the oil into a cream or lotion. What's more, these formats raise people's awareness for the value of this precious resource. Ultimately, it is not just about protecting our planet's supply of freshwater but also about other important side effects, such as helping to reduce greenhouse gas emissions during transport. Packaging is another key factor. The global cosmetics industry has been reported to produce more than 120 bn units of packaging each year. By removing water from formulations, switching to smaller packaging, and in some cases from plastic to cardboard or maybe even to water-soluble packaging is a real possibility. This opens great potential to make a positive impact on the environment.

What solutions are currently available?

Right now, waterless skin care products are mainly available in three formats. The first is oil-based formulations like oil serums. The second is solid-format products, such as wax-based sticks and bars. And the third is dry products like powders. Our innovators have created a range of solutions for waterless and less-water formulations that are empowering companies in the cosmetics industry to offer water-conscious products without compromising on texture or performance.

Why is it important for your company to spur the development of water-conscious formulations?

BASF’s slogan “We create chemistry for a sustainable future” is not an empty promise, but a purpose that inspires us in our daily work. We are dedicated to preserving our planet and its resources for future generations and consider this a key innovation lever driving sustainable chemistry. Therefore, we are committed to responsible water use along the entire value chain and at the watershed level.

Thus, when it comes to personal care, it is easy for us to empathise with the needs of the environmentally conscious consumer, and we want to support the “Clean Beauty” market trend. Since water is such a precious resource that is particularly in need of protection, it is very important to innovate in this area.

What exactly are your solutions?

We offer are five flagship solutions for this trend. Three of the solutions support the transformation into emulsions, while the other two support the development of solid product formulas.
For transforming into emulsions, the first example is a waterless emulsion base⁹ that provides a transformation experience on the skin, from oil to cream to lotion. It can be used for the face, hands, and body. The second example is a low water emulsion concentrate¹⁰ that can be used for delicate creams or light lotions. The third waterless solution¹¹ can be used to create a rich cream from a solid, where consumers can create customised cosmetics for their own unique preferences.

For the development of solid product formulas that are applied directly on the skin, the first example is a deodorant stick solution¹² that provides a fast-absorbing action with low residue and smooth, light, non-sticky and non-oily feeling. The other solution is a caring water-free stick¹³, that offers a soft feel and intensive care experience. Ultimately, these solutions stand out because they enable waterless and sustainable products with no need to compromise on texture and performance. This opens important opportunities to protect our planet’s most precious resource.

References
9. SC-DE-18-168-54: cold processable; 86% natural origin content in line with ISO 16128, free from preservatives, silicone oils and acrylates
10. SC-DE-20-243-19: 96% ingredients of natural origin in line with ISO 16128, with no PEG-based, parabens, acrylates, or silicone oils
11. SC-DE-20-037-51: 98% ingredients of natural origin in line with ISO 16128
13. SC-DE-21-128-1: 97% ingredients of natural origin in line with ISO 16128

Waterless formats such as powdered cosmetic products can be mixed by the customer with the help of water for individual use.