Global trends in speciality surfactants
for personal care products

Gillian Morris of **Kline & Company** looks at the tangled ways in which 'green' and 'natural' are driving the market in personal care surfactants

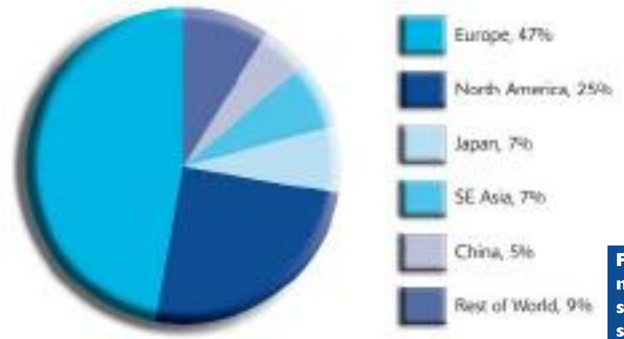
Despite the maturity of the speciality surfactants market for personal care products, particularly in Europe and North America, growing pricing pressure and a healthy dose of uncertainty over environmental concerns make the marketplace a complex and exciting playing field for brand owners and surfactant suppliers alike.

The industry is facing a number of challenges. Some are quite certain, such as those in the value chain where both brand owners and raw materials suppliers are being squeezed by pricing pressure. Other challenges, such as growing environmental concerns over issues of biodegradability, pollution control in manufacturing processes, and consumer desire for 'green' ingredients and products, introduce more uncertainty into the market.

In 2007, according to the Kline Group's *Specialty Raw Materials for Cosmetics & Toiletries* the speciality surfactants market accrued more than $650 million in sales. Europe accounted for nearly half of that, $320 million, while the US contributed just under half of the European total, with $155 million (Figure 1).

The maturity of these regional markets is reflected in a European growth rate between 1-2%/year and a slightly higher rate of 2-4% in the US. Japan, China and South-East Asia all had sales between $30 million and $60 million, though Japan's market is quite mature, showing growth of less than 0.5% in 2008. The others show more significant growth rates, with China growing at 8-10%/year and South-East Asia at 4-5%.

Speciality surfactants, which provide the cleaning power in shampoos, conditioners and body washes, are essential to the personal care market. These chemical compounds break up stains and separate dirt from the surface being cleansed - be it hair or skin, just as they do for other types of cleansers - and keep the dirt in a water solution to prevent it from being redeposited onto the surface it was removed from.



Source: Kline & Company - *Specialty Raw Materials for Cosmetics & Toiletries*

Figure 1 - Global market for speciality surfactants by region, 2007

Surfactants are able to disperse non-water-soluble contaminants, which is why they are used in addition to water for cleaning purposes. They are traditionally derived from petrochemical and oleochemical sources, largely, in the latter category, from agricultural products such as palm and coconut oil.

In the global personal care market, surfactants are mainly used in 'rinse-off' applications and they tend to be defined as speciality surfactants used in shampoos, conditioners, and body washes. The sector is highly skewed toward the mass-market end of personal care. The total value of the market was $58 billion in 2007 (Figure 2 a-c)

Because of this, surfactant marketers are primarily selling to the big mass marketers like Procter & Gamble, Unilever, Colgate-Palmolive and L'Oréal, who are the largest players in a generally fragmented market (Figure 2c). These companies have large stakes in rinse-off applications and, as such, they are very price-sensitive.

All four of the standard types of surfactant are used in the personal care market. **Anionic** surfactants, which carry a negative charge, are most widely used in shampoos. Positively charged **cationic** surfactants form one of the smallest surfactant categories in terms of volume and value. They are used mainly in rinses and hair conditioners.

The fact that **non-ionic** surfactants do not carry an electrical charge makes them resistant to deactivation in water with a high mineral content (hard water), so they are particularly efficient grease removers. **Amphoteric** surfactants, whose charge depends on the pH of the water they are placed with in solution, are very mild, making them well suited for personal care and household cleaning products. They have excellent dermatological properties and are frequently used in shampoos, skin cleansers, and other cosmetics.

Encompassing these categories are market-based perspectives that view surfactants as either 'commodity' or 'speciality/value-added' compounds. The former are inexpensive workhorse materials but tend to be harsh on the skin. The latter are more expensive and are used to add properties such as foam boosting and improved skin feel - and to mitigate the irritancy of commodity surfactants.

Surfactant prices have seen a lot of erosion in recent years. Since 2007, however, prices have actually increased, driven by increased raw material costs, particularly for palm and coconut oils. These increased raw material prices pose important challenges to surfactant producers.

They also face another challenge: the commoditisation of speciality surfactants. To maintain differentiation in a commoditising business, some suppliers have been changing their business models. One of the ways they are doing this is by switching from just supplying one surfactant to supplying blends called 'performance concentrates'. In this way, product offerings can be tailored for specific customers.

In supplying a unique product, the customer is less likely to be as aggressive on pricing as he might be over a more commoditised surfactant that he might be able to purchase from another supplier. With a performance concentrate, the supplier can argue that it was specially designed for the customer's products and is unique. This allows the supplier to charge a pricing premium.

The second big downward force on pricing comes from the big brand owners, who are facing pressure from big box retailers like Wal-Mart. The large retailers are able to demand lower price points from the brand owners, who in turn go back to their surfactant suppliers and attempt to negotiate price reductions.

This pressure has caused brand owners to shop around more among surfactant manufacturers to see which one can provide them the best deal. However, this situation places more pressure on companies selling commodity surfactants than those developing speciality surfactants.

Into all of this come two issues of environmental concern that have an impact on the speciality surfactant and personal care markets. First, consumers want to use products that are perceived to be 'greener' or derived from natural ingredients. Second, the growing global awareness of the need for environmental conservation in manufacturing processes means that both companies and consumers are concerned about the environmental impact of surfactants and the way they are manufactured.

At a minimum, this means limiting the environmental impact of the ingredients in the product and the manufacturing process in terms of pollutants and waste. Ultimately, it means consideration of, and preference for, resources that are both sustainable and renewable.

It is not simply public perception and consumers that are putting pressure on the companies to make products that are more environmentally friendly. The people who work for the brand owners are also concerned and would like their companies to have a green footprint. Thinking green is increasingly becoming a key element in corporate philosophies within the surfactants marketplace.

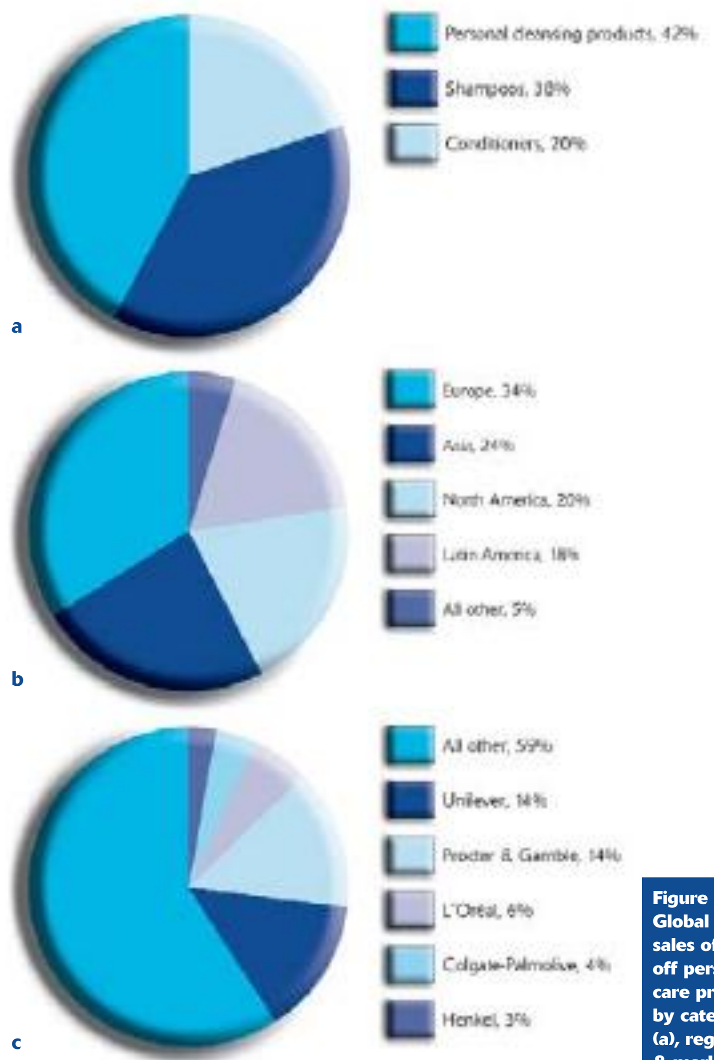
Many companies are looking at their raw material portfolios and paying more attention to the ingredients they use. Suppliers of surfactants are paying close attention to their manufacturing processes to lessen the environmental impact, in terms of both emissions and harvesting of raw materials. This in turn helps to make them more attractive to their customers who are looking to produce greener products for consumers.

There is a trend within both suppliers and personal care products manufacturers to become better stewards of the environment. Nothing is defined yet and the overall trend is still loose, but it seems to be coalescing around growing environmental concerns amongst consumers.

More and more, companies are asking questions such as: Where do the ingredients come from? And what environmental impact does their production or harvest have? This often translates into a largely unknown, ill-defined question: Can we use a naturally based surfactant in this product? Should we replace an ingredient in an existing product or developing new products?

And what does all this mean exactly? The emerging definitions of 'green' and 'natural' for the speciality surfactants market seem to be along the line that natural ingredients are those derived from naturally occurring sources, whereas petroleum-based products are not classified as natural, due to the heavy chemistry used in fractionation, etc.

In most cases, the term 'natural' refers to sustainable or renewable sources, especially plants. But in some cases, the use of 'natural' sources can lead to a depletion of the plant species. In this case, the ingredients would be natural but not 'green'. Additionally, if harvesting the ingredient harms the local ecosystem and communities, then the ingredient is not considered 'green'.



Source: Kline & Company - *Global Cosmetics & Toiletries*

Figure 2 - Global retail sales of rinse-off personal care products by category (a), region (b) & marketer (c), 2007

'Green' implies a level of regard for the local environment such that the ingredient is sustainable and/or renewable with or without farming (replanting). Some light chemical modification is acceptable in a green ingredient, but this process must have a low impact in terms of waste and emissions.

There are some green speciality surfactants available in the marketplace, including alkylpolyglucosides, glutamates and pentosides, but they are more expensive than competing materials. They are currently used in combination with conventional surfactants in products such as shampoos, as well as exclusively in selected niche, natural brands.

For some surfactants that cannot be produced from natural sources, companies are attempting to make the production process as green as possible by limiting emissions, minimising the consumption of non-renewable fuels and switching to enzymatic production processes.

This trend is one of the most important of the last 15 years but there is still significant uncertainty. Whilst the uncertainty adds complexity to the market, it also provides opportunity for brand owners with the right products and surfactant suppliers with the right raw materials.

With this uncertainty, there is the possibility that a company will hit on a material or product that turns out to be a particularly good combination in terms of its greenness and its popularity and that will in turn drive the rest of the market in a particular direction. However, there is a trade-off in all of this.

Natural raw materials are usually costly compared to synthetic petroleum-based or processed oleochemical surfactants. Companies need to examine whether using natural materials may deplete the Amazon rainforest, for example, or if a suitable raw material can be obtained from corn or wheat, which might be more sustainable - or, indeed, whether the resulting price of the consumer product will be too high.

Marketers need to be pragmatic, as consumers fall into a number of groups. Some consumers are willing to pay higher prices for products because they make them feel good and ethical about using something that is natural and environmentally friendly. Within this group, there is even a percentage of people who are not all that concerned if the product works as long as it is environmentally safe. Perception is key for this group.

Others are primarily concerned with buying something that works and, if it is also environmentally sound, they would purchase that over something else that was priced similarly but not as clearly 'green'. And, of course, there are still other groups of consumers who do not care where the product comes from and are mostly concerned with price and efficacy.

Increasing commoditisation, competition and uncertainty in the global surfactants market have made it necessary for suppliers and marketers alike to think creatively in order to retain market share and strive for growth in a largely mature market.

Companies need to identify their strengths and carefully plan strategies for growth, paying specific attention to ways that can capitalise on the growth potential of natural products and environmentally sound manufacturing processes. Whilst the overall margins may be small, there is room for a company with the right vision and unique product to drive the market in new directions.

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