

## New Developments of Cosmetics, Perfumes and other Detergents

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We live in an age where staying clean, healthy and beautiful is becoming more and more important. Therefore cosmetics, perfumes and other detergent items are getting growing attention within the industrial sector and is being heavily backed by the latest science and technologies. However, beauty is not a modern concern. Its existence dates way beyond the ancient times of Kings and Queens. Hence, the use of cosmetics in order to improve the external appearance of one's self and perfuming the skin to leave behind a pleasant trail even when you are no longer present, simply are traditions descending through the generations.

Perfume is derived from the Greek word 'per fumum' which means 'through the smoke'. The earliest kind of perfumes were the resins burnt on fire to honour the Gods, and it is believed that perfume was discovered during the ages when fire was discovered. The first perfumers were priests, and legend states that the traditions for perfumes originated from

ancient Egypt before it influenced the western world through trade. Similarly it is believed that make-up was first used during high-court trials back in the days of the kings. Through the application of make-up it was possible for the victims to hide their true emotions behind the thick make-up they wore. And looking back at our own roots and traditions there are many traditional skin treatments and ayurvedic mixtures intended to improve the appearance of a person. Therefore personal care and hygiene is a field which is way older than many other fields of industry.

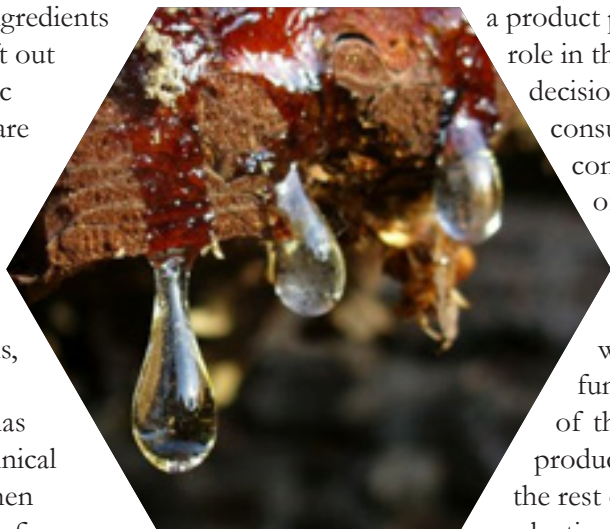
Talking about perfumes, it is important to understand the wide varieties of fragrances in existence.

It is natural to think of fine fragrances the moment one hears the term perfumes, however there is a larger market for the consumer fragrances, which are found

in mass market products such as shampoo, body wash, bar soaps, fabric conditioner, detergents, dish washing liquids, hand washes etc. This is also known as functional perfumery. In the case of fine fragrances, the raw materials are mixed in an alcoholic base to create the final complex perfume. And mostly the raw materials used are very expensive and are often natural extracts. Therefore there is rarely budget limitations for fine fragrance projects, hence the price of the final products. In contrast, when it comes to functional perfumery or consumer fragrances, the bases are no longer an alcoholic base, and the fragrance created has to be tested for additional stability. Also as the functional fragrances are aimed at



mass market products, the budget for the creation of the fragrances is very tight, and is around 8 euros per fragrance in general. Therefore, expensive ingredients are often left out and synthetic ingredients are mostly used instead of natural extracts. Due to these reasons, functional perfumery has a lot of technical struggles when compared to fine fragrances, however that is where the glamour lies.



**Resins**

New molecule discovery is very important in this regard to come up with bold new smells such as aldehyde C14 which made Chanel No.5 the best-selling perfume in the world. A single ingredient, if strong, even if it is present in minute amounts, is enough to bring about a magical change to a fragrance composition. A great example for this is the discovery of a molecule called 'Hedione' credited by Firmenich, the second largest flavour and fragrance house in the world. Individuals called 'Perfumers' or often known as 'noses' within the industry, work for these commercially less known flavour fragrance houses; Givaudan, International Flavours and Fragrances, Symrise and Takasago are among the other big players. These houses produce the fragrances for briefs provided by brands, be it fine fragrances and lifestyle brands such as Chanel,

Dior, Calvin Klein etc, or consumer fragrances for household brands from companies like Procter and Gamble or Unilever. The smell of a product plays a key role in the purchase decision of the consumer. The contribution of the smell is often more than 80%, where the functionality of the product takes the rest of the evaluation. The use of room fragrances and air fresheners

in order to increase consumer traffic in to showrooms and stores, is now practiced by many large brand houses as a luxury marketing strategy. The smell of the environment will make the consumers hang around the showroom longer, increasing the chances of purchase. This is all at a subconscious level. Therefore smell has evolved in to very different avenues lately. Have you ever guessed why the coffee shops smell so strong even when we walk on the road? Or why some of the hotel bathrooms smell of certain kinds of spices? Or why some clothes smell like they were sun-dried even if it was a cloudy day? Smell can easily deceive you!!

Microencapsulation is also one of the latest techniques developed for the functional fragrance products. The theory here is that capsules of fragrance are made to be absorbed by certain surfaces and they later

release these fragrances under the influence of motion. For example, when clothes are washed using detergent and then perfumed by the use of a fabric conditioner which comes with microcapsules, these capsules get absorbed on to the clothes, and release the fragrances for instance, when they are being folded, ironed, being worn or if it gets rubbed somewhere. This is because the capsules are only broken due to some external stress in order to release the fragrance. This technique is now tried on deodorants as well, where they believe that additional perfume will be released under the pressure created by movement, which makes it ideal for the function of a deodorant. Reebok's motion sense antiperspirant is a good example for this.

Well, if you think those are the greatest tricks of the industry, you need to test yourself where the cosmetics would lead you. The cosmetics industry has found refuge in science and technology like never before creating innovative products at the speed of a blink of an eye. The market has become quite competitive and saturated, and this is seen very clearly in mature markets such as the United



States and Europe, where it is more of a lifestyle. However, you would be surprised to hear if I told you that the country which is most advanced in cosmetics is a non-western country and is in the East. It is Korea! It is said that a Korean woman on average would use close to 25-30 different cosmetic products and the on average men would use around 15 products or more keeping the numbers to a minimum. The Korean researchers are the ones who introduce most of the latest technologies to the cosmetics market. They invented the BB cream, the CC cream you name it!! The latest of its kind is a cream called

the 'Blur Cream' which contains a special silicon compound capable of reflecting light in all directions. Therefore all the imperfections on the skin would seem to disappear in an instant, providing the instant satisfaction of a 'WOW' look that every woman craves to see before she leaves the house in the morning. It also comes in a universal colour tone, where one neutral colour suits all skin types and colours. But looking in to the function of the cream, it doesn't provide any corrective support for the skin, it only deceives the eyes of the people who see you. So the boys need to watch out more than ever before! Ha ha!

However when looking at cosmetics, it is not only the beauty products that matter but also the products that provide care and treatment to the skin, thereby helping to preserve the true beauty.

Sun care products are an important category in this regard, where many active ingredients are used to avoid the harmful rays being absorbed by the skin and causing skin cancers, premature skin aging etc. And talking about skin aging, it is also a vast category with products for



all ages. Starting from anti free radical creams and lotions to anti-aging creams to global anti-aging creams for 60+ years. Furthermore, there are new products for men as well, to keep their skin hydrated, smooth and young-looking. When it comes to aging, the phases of aging differ depending on gender and also nationality. For instance wrinkles appear early in white skin whereas dark spots appear first for darker skin. And aging is quite interesting when based on gender. It is believed that women start to age when they reach 25 years and in contrast men age only when they reach 40 years. Quite unfair for us women, but that's how nature rewards. Yet, women will only carry mild wrinkles whereas men will carry deeper wrinkles. Also the aging process for women is more gradual whereas it is more of a sudden experience for men, where they would wake up one day in the

morning to find out that they look old.

Now looking back at this industry of personal care products, beauty and grooming, one can bet that it is only getting bigger and better.

Therefore the fragrance and cosmetics industry has a lot of potential for young scientists in the STEM fields and there are lots of creative career opportunities ahead. This industry can be thought of as a perfect marriage between science and creativity. So for those of you out there with the brains to come up with the next big idea in this fast paced world

of discoveries and those of you who also want to put your creative skills to test and bring a smile on someone's face be it through the sensuality of a new perfume, the caring smell of a fabric conditioner or the confidence of a young girl dressed up with make-up, this is the field you might want to get in. After all, there's not a single day to regret when you do what you love!!



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