



Application

Perfume Oils for a Wide Range of Applications...



It would be a mistake to think that the work of perfumers relates only to the development of perfume oils for the “fine fragrances” that are offered so elegantly on the shelves of perfume shops. Almost every time they use a personal cleansing product or a toiletry or a household cleaner or care product, consumers encounter the perfume oils that these products contain.

As a result of the differing needs and objectives that perfume oils have to satisfy, they are classified into the following product groups:

Fine fragrances

This segment is also termed “alcoholic perfumery,” as alcohol serves as the carrier for the

fragrance. What are meant are perfumes, eau de colognes, eau de toilettes, after shaves and other fragrant splashes, which typically have a relatively high perfume oil concentration of between 8 and 20%.

Toiletries

All products intended for cleaning or grooming the body are grouped in this category, although it also includes perfume oils for cosmetic or sunscreen products.

Household products

This category comprises all of the products that are employed in the household. These include cleansers and care products, all laundering and fabric care products, as well as air fresheners.



A perfume's wide range of tasks

The purpose of the perfumes from the fine fragrance group is to use harmonious fragrance development to reflect and underscore the wearer's individuality and personality. In selecting a fragrance, consumers often also identify with a brand, a fashion trend or a philosophy of life. They associate their favorite fragrance – either consciously or subconsciously – with the emotional brand image they have seen from advertisements or TV commercials, which is usually also reflected in the product's packaging and flacon design.

If, for example, an extraverted woman reaches for a transparent bluish or greenish flacon, she expects a fresh-floral fragrance that reflects her temperament. An introverted consumer will likely select a flacon in red or gold, which means she wants a warm, Oriental scent. So the perfumer's creations not only have to be esthetically upmarket "olfactory garments" for the wearer, they also have to blend in harmoniously with the accustomed brand image.

A product fragrancing has a different purpose. In this case, the fragrancing is intended to make the product pleasant for the consumer to use. The hands should smell fresh and clean after they have been washed with soap. And a freshly mopped floor should smell clean – but it should be a different kind of "clean" than freshly washed hands.

In product fragrancing, the scent is expected to impart a message – a product's effect or effectiveness

should not only be visible, it should also be "smellable." The importance of this fragrance-effect relationship was demonstrated by a simple experiment. Consumers were asked to test three "different" laundry detergents. What they did not know was that while the fragrance was different, the other ingredients in the laundry detergent were identical in all three cases. The results were as unambiguous as they were surprising: Depending upon the fragrance effect, the effectiveness of the detergent was assessed as

"washed especially gently",
"washed especially clean" or
"was hard on the laundry".

A finished perfume oil is not created over night

If a new product from one of the above three segments is to be brought to market (launched), the manufacturer usually turns to a fragrance producer, a fragrance house, to obtain a perfume oil that is custom-tailored to its needs. Only few companies that use perfume oils in their finished products have their own in-house perfumers.

A "briefing" is used to explain the assignment to the perfumers from the fragrance house. The briefing contains information about the nature and design of the new product, about the defined target group for which the product was developed and, of course, about such technical requirements as usage rate and fragrance profile. And the price that will have to be paid for the perfume oil also plays a major role.

The briefing serves as the basis for the work of a team that consists of a perfumer, evaluator, marketing specialist and usually a product specialist. The members of this team work together to translate the briefing into a



Perfumers develop fragrances for widely differing product groups.

Application



The amount of a perfume in the finished product, e.g. in a shower gel, ranges between 0.1 and 2.0%.

fragrance composition that will satisfy all of the desired criteria. In doing so, the first step is to select a fragrance theme that will do a good job of esthetically underscoring the effect of the product. Only then does the perfumer set about to transform this idea into a perfume oil. In addition to esthetics, two additional aspects are also very important – the masking power of the fragrance and its stability.

Masking power means a composition's ability to cover up the inherent odor of the medium to be fragranced, for example a soap or a cleanser, without significantly altering the selected fragrance theme. This can naturally only be assessed within the context of the application itself, i.e. the fragrance has to be added

to the medium in question and then tested. This is why perfume houses usually have product specialists, often chemists, who work in their own laboratories to develop a wide range of media, such as soaps, shampoos, creams or dishwash detergents. The perfume oil concentrate is appropriately added to the medium in a typical concentration (usage rate) of between 0.1 and 2.0 % of the finished product in the case of toiletries and household products.

An evaluator then assesses the fragrance in a sample of the finished product. Evaluators are fragrance specialists who have a specially trained nose and can speak the professional language of the perfumers, on the one hand, as well as a very good knowledge of the market segment

they serve. They thus act as a link between the perfumer, who develops the new fragrance with a view to creative aspects, and the marketing specialist, who provides conceptual support in developing the fragrance and maintains an objective, marketing-oriented view.

The fragrance has to prove itself in the finished product

Guided by the evaluator's assessment, the perfumer then varies and modifies his or her composition until optimum fragrance development has been achieved in the product. Realistic application tests are an absolute necessity in this connection: A laundry detergent, for example, should not just have a pleasant scent when it is added to the washing



An Evaluation staff member testing the fragrance development of a shampoo.



Both the scent of the fabric softener itself as well as the scent of the washed laundry are assessed.

machine. When the wet laundry is removed from the machine, the dried laundry is hanging on the clothesline and is later ironed – the fragrance always has to be noticeable and pleasing. The same also applies in developing a fragrance for a shampoo: It is necessary to assess fragrance development and substantivity on both wet and dry hair. Air fresheners or cleansing agents, too, are assessed with respect to their effect in the room in standardized, individually ventilated olfaction chambers. Only when all of these tests have produced satisfactory results is the first step in the development of a fragrance completed.

In addition, the perfumer also has to keep an eye on the stability of the fragrance composition as it is being developed. In this case, stability means that only minor changes in the fragrance may occur throughout the long weeks and months that the product spends on a supermarket shelf and in the consumer's home. Although this would appear to be obvious, it does necessitate good knowledge and experience on the part of the perfumer. Yet in spite of this professional knowledge, only a final test can provide definitive information about stability, because a perfume oil is a blend of a wide range of

substances that can react with both one another as well as with the medium that is being fragranced. In either case, this could cause the fragrance to change significantly, and often in an unpleasant way. Discoloration of the product is also possible. To avoid both of these risks, special endurance tests were developed in which the fragrance composition is subjected to weeks of exposure to heat and light in the product. Only when the evaluator and the perfumer have given

their thumbs-up to the aging sample is the fragrance development process concluded. Only now will a presentation be made to the customer. If the customer is satisfied with the fragrance, the composition – which has thus far been compounded only on a scale of grams – can now be produced on a production scale. Fully automated, computer-controlled compounding equipment then uses the perfumer's formula to produce batches of up to several tons in size.



Computer-controlled production systems compound even huge volumes of perfume oils with an accuracy of a single gram.