

## **Preservation of cosmetic products**

Positionspapier der Arbeitsgruppe Kosmetische Mittel

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Cosmetic products make a significant contribution to maintaining human health and well-being, for example by cleaning, caring for and protecting the skin, hair and teeth. If cosmetics are not sufficiently protected against microbial contamination, there is a possibility that they will be infested by microorganisms. Some of these bacteria, yeasts or fungi can cause illnesses and thus affect the health of consumers.

Microorganisms grow and multiply particularly well when water and certain other substances, such as proteins, are available to them. The growth of microorganisms can lead to spoilage of the cosmetic product, which often manifests itself in an unpleasant odour, discolouration or a change in consistency. Some microorganisms can also form harmful decomposition products.

Cosmetic products are practically free of germs when unopened. Microorganisms are usually only introduced during application, such as when the product is removed. The germs then grow particularly well in the warm and humid bathroom. In many cases, targeted preservation of the products is therefore essential to prevent microbial spoilage over the entire period of use. With some cosmetic products, however, the type of formulation or packaging already prevents the growth of microorganisms.

Basically, two groups of cosmetic products can be distinguished with regard to preservation:

### **Cosmetic products without preservatives**

For some products, the risk of microbial contamination is so low due to their composition alone that the addition of preservatives can be dispensed with. This is the case, for example, with products with a high alcohol content such as aftershaves or powders with a very low water content. Preservation can also be dispensed with in the case of a high pH value, which can be found in hair removal products, for example. The type of packaging can also contribute to the fact that preservation is not necessary, such as with hairsprays in the form of an aerosol pack.

### **Cosmetic products that can become contaminated during use and need to be preserved**

To protect microbially sensitive products from microbial contamination during use, around 50 substances are currently authorised for preservation in the EU. These have undergone extensive safety testing. The results were assessed by an independent scientific committee. Only when the substances have been assessed as safe are they authorised for the preservation of cosmetic products. The safety of preservatives is regularly reviewed based on new findings.

Depending on the product type, combinations of preservatives are often used, as the spectrum of action of the substances is often not broad enough to cover all relevant germs with just one substance. Manufacturers make sure that the concentration of preservatives is as low as possible, but still sufficient to effectively inhibit the growth of microorganisms.

Raw materials are selected according to particular microbiological criteria and cosmetic products are manufactured under special hygienic conditions.

Alternatively, protection can also be achieved by using multifunctional active ingredients with additional antimicrobial benefits. The lists of ingredients that can be used in cosmetic products currently include 150 to 200 multifunctional substances with antimicrobial properties. However, these must always fulfil a different main function in the cosmetic product. The antimicrobial effect depends on various factors such as the quantity used and the pH value in the product. The safety and compatibility of the finished products when using multifunctional active ingredients with antimicrobial side effects must be verified by experts in individual cases. A safety assessment can be particularly complex in the case of plant extracts, as these are often complex mixtures of a large number of substances. The available toxicological data must be carefully examined, and possible allergenic effects must also be taken into account.

### **Can preservatives be allergenic?**

All finished cosmetic products undergo extensive safety testing before they are marketed to ensure that consumers receive products that are safe for their health. Nevertheless, in rare cases, individual consumers may experience an allergic reaction to a cosmetic ingredient. Allergies can also occur with preservatives. Preservatives - like all other substances added during production - are declared on the label regardless of the concentration in which they are used. Internationally standardised INCI designations (INCI: International Nomenclature Cosmetic Ingredients) are used for the declaration. This regulation enables allergy sufferers to avoid products that contain a substance to which they are allergic. In general, products with preservatives do not pose a greater allergy risk than products without preservatives.

### **Advertising claim 'without preservatives'**

Sometimes cosmetic products that do not require preservation are advertised with the statement 'without preservatives'. However, the legal ban on misleading advertising with self-evident claims may already apply here if no comparable product on the market contains preservatives.

The European Commission's 'Technical document on cosmetic claims' from 2017, which is not legally binding, also points out that even if cosmetic products contain multifunctional, antimicrobial ingredients - such as alcohol - and do not contain classic preservatives, the advertising claim 'free from preservatives' should generally not be used.