

Preservatives in Our Cosmetics – Why use preservatives?

When we purchase cosmetic products in the store, we take for granted that they will remain usable for a long period of time. This shelf life and safety is only possible thanks to the presence of preservatives in our personal care products.

When we formulate our own personal care products, whether for ourselves or for resale, we have to provide a product that keeps our customer safe during the duration of use and at the same time protect our liability should our customer misuse our product. Remember, the FDA makes it a crime to sell adulterated or contaminated products. Preservatives are the essential ingredients in our formulations that effectively protect the consumer and reduce the risk of products becoming contaminated by bacteria.

What is a preservative?

Cosmetic preservatives are ingredients designed to protect our cosmetic formulations from contamination caused by microorganisms during storage and during the continued use by our consumers. Bacteria, yeasts and molds are always present on our skin, in the air around us and even in the water we drink. Contamination of products, especially those used around the eyes and on skin, can cause significant problems. Preservatives can help prevent these problems.

Are preservatives safe?

Yes, preservatives that are approved for use in cosmetics and personal care products are safe. Any preservative used in cosmetics and personal care products is subject to strict national and international regulations before being approved for use. It is important to remember the primary reason for the use of preservatives: **the protection of the health and safety of consumers by reducing the risk of contamination or spoilage of products.** A very small number of people may have allergic reactions to certain preservatives, just as some people develop allergies to nuts, nickel, pollen, seafood etc. However, proper ingredient labeling in accordance with FDA regulations allows people to identify and avoid products, which contain the preservative (or any other ingredient) to which they may be allergic.

Why do we need preservatives?

We need preservatives to prevent contamination of our products that we use or submit for resale. You may not think of preservatives as an essential part of your cosmetic formulation, but without question cosmetics and personal care products need preservatives. Without preservatives consumer products can become contaminated with bacteria and yeasts, and could cause irritations or infection, particularly if the product comes into contact with damaged, broken, or the sensitive areas around the eyes, or the delicate thin skin of infants and children. We live in a very litigious society, where not all consumers are willing to accept responsibility for their improper use or storage of products that they purchase also. That's why we need preservatives.

How is it ensured that my cosmetics are not being contaminated?

The use of preservatives helps minimize contamination risks. Just like food, microorganisms can contaminate cosmetics unless the product is preserved. This is especially true for products that are used over a longer period of time also. You or your customers homes have dozens of opportunities to come into contact with bacteria that can then be introduced into a cosmetic product: door handles, cell phones, computer key boards, pets, foods, dust etc. Even the warm, steamy

bathroom environment that we store most of our cosmetics and personal care products are ideal breeding grounds for bacteria. The use of a small amount of a preservative can prevent contamination from these sources and protect your cosmetic product for a long period of time.

Are preservatives a new discovery?

No. Preservatives were used in ancient history and **have been around for thousands of years**. Preservatives are not a recent or even a 20th century invention at all. Analysis of Egyptian tomb contents show the ancient Egyptians used copper sulphate, a known preservative in their eye shadow formulations. Today's preservatives for cosmetic and personal care products are highly sophisticated and much more effective. Today's cosmetic preservative choices often only require very small amounts to be used to protect large quantities of products for very long periods of time. Keeping the consumer safe is the #1 priority. This low usage of preservatives far outweighs the risk of contamination of unpreserved products and the associated product health risks and product liability accompanying unpreserved cosmetics.

Do natural products contain preservatives?

Yes, natural products also contain preservatives (or they definitely should!), though you will see more hurdle technologies than preservatives sometimes to accomplish the same goals. Many natural products are using several microbial inhibiting ingredients that have overlapping capabilities to provide as broader spectrum of protection to the natural cosmetic product as possible. By combining more naturally derived preservatives with hurdle techniques, even natural products can be preserved more naturally.

Why do natural cosmetics need a preservative?

The modern trend to produce natural products has been a driving force in meeting consumers' demand for more naturally derived cosmetic preservative ingredients. However, natural ingredients can sometimes be even more prone to microbial growth—just think about how long fruits and vegetables last in your refrigerator. Botanical plant extracts can contain bacteria, Free Trade butters or oils can contain mold or fungi spores, which can multiply when exposed to any amount of water in formulations. Many hands come in contact with many of these natural ingredients long before they arrive in your formulating 'laboratory'. In order to prevent microbes, bacteria, mold, and yeast organisms from proliferating wildly in your products, preservatives and hurdle techniques of preserving are used to protect natural cosmetics also.

What kinds of cosmetics or personal care products contain preservatives?

Preservatives are necessary in most cosmetics and personal care products, from hair care and skin care products to personal hygiene etc. A few selected categories of products can be made completely without preservatives. For example, high alcohol content products (perfumes, deodorants, hair sprays) and/or sealed container products (e.g. aerosols) are often preservative-free. Single use products (e.g. samples, hair colorants etc.) are also often preservative-free. These products can rely on the use of ingredients that are less likely to become contaminated (e.g. high alcohol content is a form of preservation). It is neither practical nor possible to make all cosmetics and personal care products preservative-free though.

Is there an alternative to using preservatives?

No, we need preservatives to prevent contamination of products. Without preservatives many cosmetics and personal care products would have to be kept in the refrigerator and even then they would eventually spoil just as perishable foods do over a period of time. Once opened, we would have to treat most cosmetics and personal care products just like fresh foods and ensure they are used within a very short timeframe with the use of use-by dates. This would involve very high production costs for manufacturers, high costs for consumers, not to mention the impractical introduction of a refrigerator in our bathrooms!

What impact do preservatives have on the environment?

All preservatives used in cosmetics and personal care products are biodegradable and breakdown quickly. Most preservatives that enter the water effluent (system) do so through products such as shampoos and bath gels. Shampoos and bath gels by their natural slight alkalinity use a very low level of preservation. The concentration levels of cosmetic preservatives in water are however so small that they are totally harmless.

What are some of my preservative choices for use in cosmetics and personal care products?

I am glad you asked! We will now go over about 8 – 10 of some common and easily available preservatives for small formulators to easily obtain.