



 Hair Care

drstraetmans
intelligence behind beauty



IMPROVING THE PERFORMANCE OF COSMETIC PRODUCTS

The essence of a successful cosmetic product lies in the cosmetic performance it delivers to the consumer's skin or hair. The sensual experience depends on various factors like perfume, texture, skin feel of oil components and emulsifiers or the performance of active ingredients. And there are ingredients that can still improve products that already are close to perfect. Our Amylomer range of conditioners has been designed to improve and refine the skin feel in skin care products and the hair conditioning performance in shampoos and conditioners. The basic ingredient of these raw materials is **Amylose**, which is a natural polymer from starch. Thus the brand name **Amylomer** explains the nature of this class of compounds. Produced on the basis of renewable materials and chemically modified to obtain high performance, Amylomer is an ideal compromise between natural sourcing and chemical engineering for the improvement of the cosmetic performance. A variation in molecular size and degree of quaternization makes Amylomer a versatile concept of specialized conditioners for different hair qualities. The second generation of conditioners for hair and skin carries the name **symbioquat**. This stands for the symbiosis between different types of Amylomer, which have been blended for best results on all types of hair and on the skin. **symbioquat** is an easy to use, all purpose conditioner, that truly combines ease of application and a balanced cosmetic profile of conditioning with minimum build-up.

Hair conditioning has been the main target in the development of Amylomer products. The use of different molecular sizes of amylose and the chemical modification to form this class of raw materials guarantees a high flexibility in designing valuable hair conditioners for shampoos. Compounds with different properties are created by this variation and we have developed perfect conditioners for different types of hair. A combination of different Amylomer grades in **symbioquat** or the addition of other conditioners open new possibilities for specialized hair care for every type of hair. The balance between substantivity and removability is one key to optimization of hair care products.

We have obtained it by combining different types of Amylomer in **symbioquat**. According to their size and chemical modification they target different sites at the hair. This is necessary, because from the follicles to the tip of the hair there has been – depending on the length – a varying degree of treatments and probably damage to the hair. The balance between high performance and better manageability of the hair is best seen when **symbioquat** is compared with a market standard like Polyquaternium-10. The reduction of combing forces is comparable between both raw materials. A significant difference can be seen in an attempt to remove the conditioner with a neutral shampoo. Polyquaternium-10 remains too strongly on the hair strongly reducing combing forces, but creating film, that reduces the natural structure of the hair.

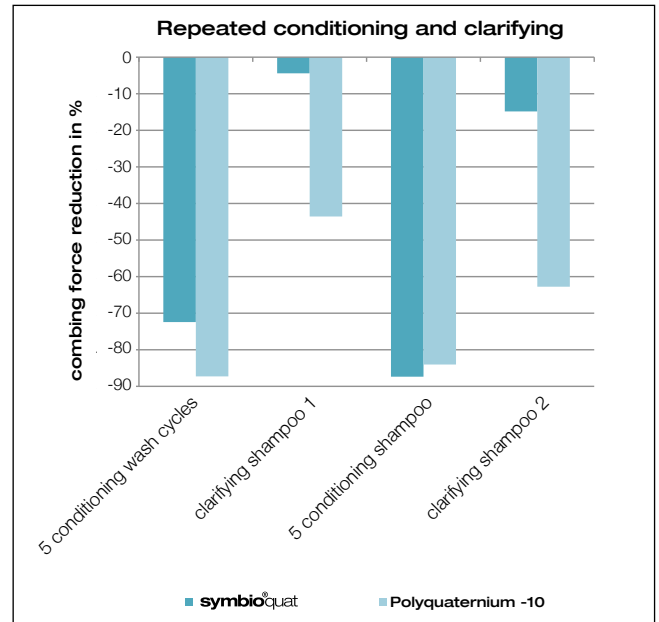


Fig.1: Comparison of **symbioquat** and Polyquaternium-10. The reduction of combing forces after 5 washing procedures is comparable. A significant difference is seen in the adhesion to the hair. A neutral shampooing can not significantly remove Polyquaternium-10 from the hair. After a second cycle the effect is even more pronounced.

A too pronounced substantivity is normally not desired since it interferes with styling possibilities. An overload of conditioner as usually seen with Polyquaternium-10 also decreases volume, particularly in fine hair. Therefore many hair care professionals try to avoid accumulation of conditioners on hair because the manageability, volume and structure is reduced.

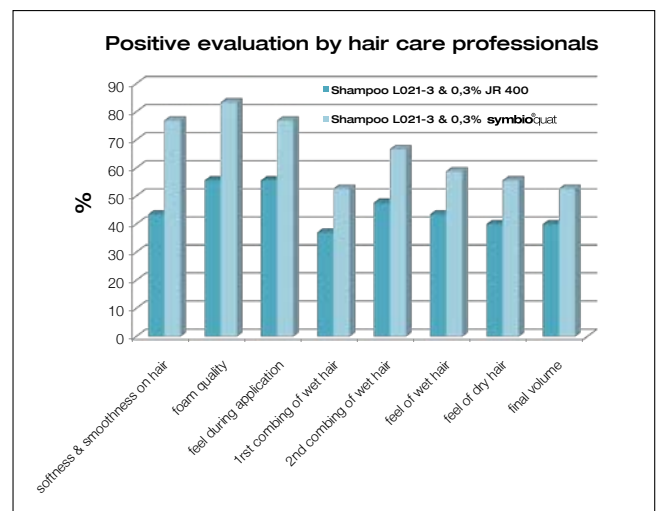


Fig. 2: Evaluation of two test shampoos by hair care professionals. The same basic shampoo was formulated with Polyquaternium-10 and **symbioquat**, respectively.

Skin conditioning is the second application that has been targeted with our Amylomer. The assessment of several sample products showed us that the skin feel of cosmetics and toiletries is improved by addition of certain Amylomer types. Smooth and silky skin is the result of formulations with starch based **symbioquat**. This effect can be used in rinse off products for a rich and velvety afterfeel, as well as in leave on products, where a luxurious skin feel is achieved.

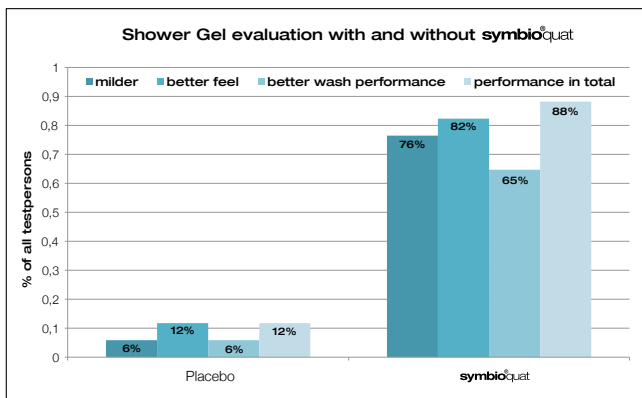


Fig. 3: Evaluation of the cosmetic performance of a basic shower gel, formulated with and without the skin conditioner **symbioquat** (n=17, non trained individuals)

Ease of application is something hardly found in starch based conditioner products. Also many Polyquaternium types are solids, that require hydration and time consuming procedures to dissolve them in the formulation.

Energy consumption by heating for the incorporation of Polyquaternium types is another step that many producers may like to avoid. Therefore cosmetic manufacturers will appreciate that Amylomer products are liquid and easy to apply. Just add the required amount of Amylomer to the formulation and proceed with your common procedure. No heating or hydrating is necessary. With our unique process of modification and solubilization the resulting liquid is ready to use.

Proven efficacy is the ground for a successful application. Therefore we have extensive test protocols for our raw materials. We incorporate the different types in various state of the art formulations to test the performance with our In-house facilities. Combing force measurements, curl retention experiments, Rubin-Dye-tests, UV-resistance and other tests are done to carefully evaluate the performance of our Amylomer materials in your products. Therefore we can not only supply valuable data for your development, but also support you with experience and experimental work to support your developments in our application lab.

Natural materials are the basis for Amylomer products. Renewable sources like potatoes and tapioca provide the starch used for the production. The raw starch is refined and chemically modified to yield cosmetic ingredients with the desired functionalities. A 100% natural conditioning agent is the Ecocert listed **dermofeel® P-30**. For the production of this ingredient only chemical modifications accepted by natural cosmetics standards are used. It binds to the hair cuticle to restore the natural lubrication on the hairs' surface, thus decreasing the combing force and improving the hair condition.

Name	INCI	Active substance	Source
Amylomer H-NI	Aqua, Sodium Hydroxypropyl Oxidized Starch Succinate	26% - 28%	Potato
Amylomer 50 M	Aqua, Starch Hydroxypropyltrimonium Chloride	19% - 21%	Potato
Amylomer CAS 50 M	Aqua, Hydroxypropyl Oxidized Starch PG-Trimonium Chloride	24% - 26%	Cassava
Amylomer H 75 M	Aqua, Hydroxypropyl Oxidized Starch PG-Trimonium Chloride	27,5% - 29,5%	Potato
symbioquat	Aqua; Starch Hydroxypropyltrimonium Chloride, Hydroxypropyl Oxidized Starch PG-Trimonium Chloride	17% - 19%	Potato
dermofeel® P-30	PCA Glyceryl Oleate	100%	Vegetable

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