

Development of a new conditioning polymer imparting surprising silky feel to hair even without silicone

—Prevents adhesion of harmful substances such as pollen, cigarette smoke and PM2.5 etc. —

Sanyo Chemical Industries, Ltd. (Head office: Higashiyama-ku, Kyoto City; President: Takao Ando) has developed a new conditioning polymer COASILKY SSP-10. When use COASILKY SSP-10 for shampoo or conditioner, it can reduce uncomfortable friction and squeaking. It can provide silky smooth feel and shine to the hair. COASILKY SSP-10 has also anti-pollution effect to prevent adhesion of particles such as pollen, cigarette smoke and PM2.5.

【Background of the development】

Hair care products such as shampoos and conditioners create new trends and their needs are diversified and personalized. In recent years, booms such as non-silicone and botanical derived from natural organic and new concept products that can care for hair damage in a short time (such as leave-in conditioner which doesn't need to rinse out) are being produced one after another. In such industry with the diversification of hair care products, the improvement in sensory satisfaction is an important differentiating factor.

The hair squeaks after shampoo, because the shampoo strips away natural hair oils. Therefore, oil components such as silicone or conditioning polymer (substance that generates conditioning components; coacervation when water and shampoo mix during rinsing) are added to many shampoos and conditioners for the purpose of eliminating hair friction. Such oil components give hair a silky feel, shine and manageability.

One of the excellent such oil components are silicones. But with non-silicone products that do not contain it, conditioning polymer alone is said to be tend to entanglement and squeaking because the slip is inadequate.

We specialize in surface control technology and sell various hair care product bases. Using our previous findings, we developed a conditioning polymer COASILKY SSP-10 that can impart slip comparable to that of silicone. Furthermore, in order to meet diversifying needs, we designed it as the multifunctional polymer that not only provides slip and shine.

【Abstract of the new technology】

COASILKY SSP-10 is a cationic polymer. Its cationic functionality results in attraction to the negative, proteinaceous surface of hair. And it coats and protects the hair. In addition, the rheological properties of the conditioning component and the adhesion to the hair, etc., are optimized to give excellent slip and shine comparable to that of silicone. They are done by changing the ratio and structure of the hydrophilic/hydrophobic part and the degree of cationization.

【Features of the technology】

The features of the "COASILKY SSP-10" are as follows.

(1) Provides excellent slip and shine comparable to those of silicone, and provides smooth fingering

By blending "COASILKY SSP-10" into shampoos and conditioners, it imparts excellent slip and provides

a smooth lubricating feel and soft shiny finish with moisture and gloss to hair.

(2) Effective in preventing hair damage

When used in shampoos and conditioners, the hydrophobic part of COASILKY SSP-10 coats the hair surface. It repairs the damage by preventing the cuticle from opening.

(3) Leaves less residue or buildup

COASILKY SSP-10 does not buildup on the scalp or hair surface even after repeated use. There is no hair stiffness caused by such residue.

(4) Reduces hair color fading

Shampoo formulated with COASILKY SSP-10 prevents hair color fading unlike when not used.

(5) Gives pollen adhesion prevention & antipollution effect

COASILKY SSP-10 has the effect of preventing harmful substances such as tobacco smoke, PM2.5, aldehydes and pollen from adhering to the hair. We will contribute to the development of new and differentiated hair care products that reduce the adverse effects on the hair and body, meet the needs of people suffering from hay fever and considerate their health.

In this way, "COASILKY SSP-10" can be imparted various functions in addition to the basic performance as a conditioning polymer that gives excellent slip and smooth finish. That is, it is possible to apply hair care for non-silicone and damage care. It can be used according to the product concept.

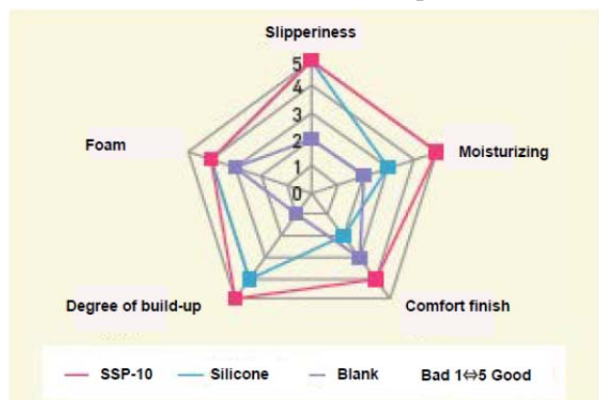
【Feature Plan】

In the rapidly changing field like cosmetics, such multifunctional COASILKY SSP-10 has the potential to offer a wider range of applications. COASILKY SSP-10 is currently under development, and we aim for early launch. We continue to carry out R & D regarding any problems about hair and scalp from multiple perspectives.

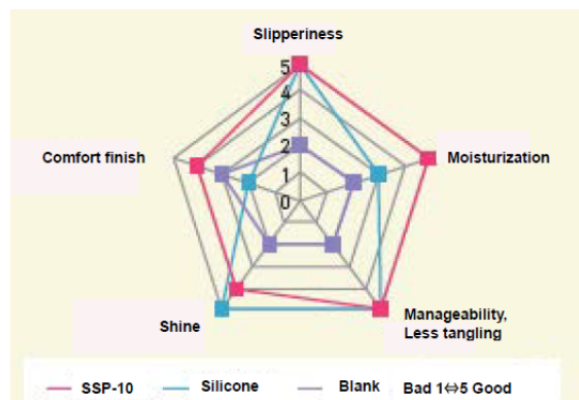
In addition, we launched the "Sanyo Skin Coffret" project in 2018. We are focusing on product development in the field of cosmetics centered on skin care. Through this project, we will propose comprehensive and attractive solutions (materials / formulations) not only for hair care products but also for the overall cosmetic field.

<Reference 1> (Result of evaluation)

● When used in non-silicone shampoo

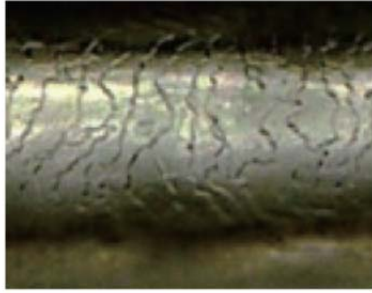


● When used in non-silicone conditioner

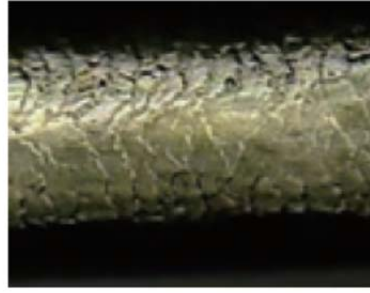


* PQ-10 is typical conditioning polymer

●Hair surface image after shampoo



With COASILKY SSP-10



Without COASILKY SSP-10

<Reference 2> (Cosmetic information)

COASILKY SSP-10 (under development)

INCI Name :POLYQUATENIUM-115

Principle component : Cationic acrylic-based polymer with hydrophobic groups