While maintaining gentleness on the scalp, our shampoo suppresses unwashed residue and the growth of dandruff-causing bacteria

SANYO PRODUCT TOPICS

Over the past few years, the sales of amino acid-based shampoos that are mild and gentle to the skin have increased.
As the demands for personal care are increasing because of the need to stay home caused by the Coronavirus pandemic, we would like to introduce a product that dramatically improves the performance of amino acid-based shampoos.

Shampoos gentle to the skin are popular for protecting the scalp.

Dust and sebum build up on the hair and scalp over the course of a day, and if left untreated, can cause odor, dandruff, and itching. Shampoos maintain and cultivate a healthy aspect of the hair by removing dirt and cleaning the scalp.
Shampoos are indispensable products in our daily lives and are roughly divided into three types: amino acid-, higher alcohol-, and soap-based shampoos. Higher alcohol- and soap-based shampoos are commonly used and are characterized by being inexpensive. However, because of their high degreasing power, they are highly irritating to the skin. In contrast, amino acid-based shampoos are characterized by being gentle on the scalp due to their lower irritation level. However, they are more expensive than the other two types, and some people may find their cleansing power weaker.
In recent years, however, there has been widespread recognition that overwashing the hair with shampoo damages the scalp and is not as appropriate for the skin. Amino acid-based shampoos, which are gentler on the scalp, are gaining popularity, especially in East Asia. According to our research using Mintel GNPD in April 2021, the market share in Japan has increased from approximately 10% in 2000 to close to 50% in 2020.

Amphoteric surfactants support the function of amino acid-based shampoos

Amino acid-based shampoos contain anionic surfactants with amino acid structures as the main ingredients. Several other ingredients are added, such as thickeners that reduce fluid dripping and polymers that improve hair texture. Among additives, ampholytic surfactants play a role in reducing the irritation caused by anionic surfactants while improving foaming.

PIUSERIA® AMC improves functions in every aspect

Surfactants form aggregates called micelles at specific concentrations in solution. Dirt and oil are incorporated into these micelles and subsequently are easily washed away with water. However, monomolecular surfactants that cannot form micelles tend to remain on the skin, which can cause irritation and feed on dandruff-causing bacteria.
PIUSERIA® AMC has the characteristics of easy micelle formation and resistance to collapse, even at low concentrations, compared to conventional ampholytic surfactants. Therefore, even if a small amount of this shampoo is used, it is possible to produce a fine foam that enhances cleansing power and thoroughly removes dirt.
PIUSERIA® AMC possesses a propionic acid skeleton: a feature that is not found in general amphoteric surfactants. It is also used as a food preservative to inhibit the growth of mold and bacteria. Residual amounts of sebum and surfactants that feed dandruff-causing bacteria are reduced, and the growth of the bacteria itself is also suppressed.
Furthermore, PIUSERIA® AMC offers advantages not only to the user but also to the shampoo manufacturer. Until now, amino acid-based shampoos have been difficult to thicken and have not foamed well during use. However, PIUSERIA® AMC resolves these issues, making it easier to produce a high-viscosity product that foams more than conventional products. This is a product that satisfies both the end-user's need to wash thoroughly while minimizing skin irritation and preventing dandruff and itchiness, and the manufacturer's engineer's need to produce a higher viscosity product so that the shampoo does not drip, while concomitantly improving foaming.

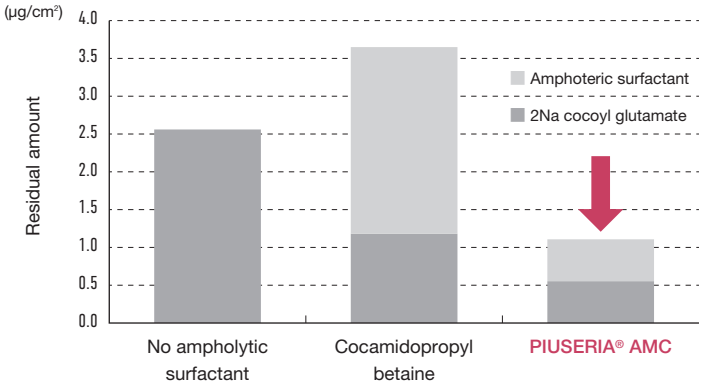
Products with this new value are expected to be adopted as a standard worldwide

PIUSERIA® AMC was adopted in Vactory, a Newmo shampoo jointly developed with our capital and business partner, Pharma Foods International Co., Ltd., and launched in August

of this year. In the internal monitoring, including about 100 people prior to the launch, there were comments that the product "foams well and rinses off smoothly" and "feels gentle on the skin," which match the goals set for the product. Thus, after the launch, attention has grown, and sales have steadily increased.
In addition, we have received offers for fabrication from other domestic manufacturers, and overseas shipments have already begun to be destined for manufacturers in Taiwan and China. In addition to various benefits, the product was also highly evaluated for being biodegradable, environmentally friendly, and contributing to the SDGs Goal 14: "Conserve and sustainably use the oceans, seas and marine resources for sustainable development."
Currently, we are accumulating data to find new appeal points and expand sales channels and we are also considering expanding into other categories, such as body soap and face wash, as applications for cleansing areas other than hair and scalp.
PIUSERIA® AMC has so many advantages that it is expected to be adopted as a standard in the field of amino acid-based shampoos worldwide. Sanyo Chemical Industries, Ltd. will continue to create new products and to improve people's lives.

Figure 1 Residual amount on the skin

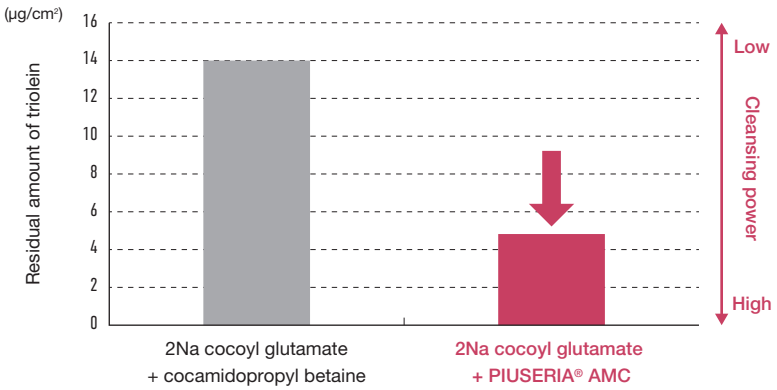
Less residue on the skin when combined with PIUSERIA® AMC



Measurement method: Kimtowels were impregnated with each test sample, which were attached to the inner side of human forearms. They were left undisturbed for a while, followed by their removal and subsequent drying. Then, cellophane tape was attached to the test site and stripped off (tape stripping method). Surfactants attached to the cellophane tape were extracted to quantify each surfactant.

Figure 2 Cleansing power against sebum

Enhanced cleansing power by combining PIUSERIA® AMC



Measurement method: Shampoos containing each surfactant were prepared. The scalp was shampooed, dried, and then wiped with Kimtowels. Sebum components attached to Kimtowels were extracted, and triolein, one of the sebum components, was quantified.

Please contact our company's sales representative when handling our company's products. It is also necessary to read the "Safety Data Sheet" (SDS) in advance. It is the responsibility of the user to determine the suitability and safety of the product for intended use.