

**Announcement of New Product Launch:
New Ingredient “Lissenare” Made from Natural Isomalto-oligosaccharides
An Environmentally Friendly Haircare Material with Styling and Treatment
Functions**

NAGASE & CO., LTD. (Chuo-ku, Tokyo; Representative Director and President: Kenji Asakura) released Lissenare, a new ingredient for hair care and styling products, on November 18. This product was developed and manufactured using the enzyme technology of Hayashibara Co., Ltd. (Kita-ku, Okayama; Representative Director: Naoki Yasuba), which forms the core of the NAGASE Group’s manufacturing functions and is strong in bio-related technology. Using NAGASE & CO.’s customer network, Lissenare is sold to manufacturers of cosmetics and hair care products in Japan and around the world.

In recent years, there has been a growing trend towards natural products in the cosmetics market, and there is high interest in the development of naturally-based ingredients with high functionality and added value which do not damage hair, skin, or the environment. Generally, the desired functions for ingredients for hair care and styling products are flexibility in styling, hold, finish after styling, and improvement of hair quality. However, these functions tend to be realized through the use of chemical-derived ingredients.



Newly developed by Hayashibara, Lissenare uses starch as a base ingredient to make saccharides using the unique enzyme technology Hayashibara has developed. Using primarily isomalto-oligosaccharides, which are found in sake and fermented foods, a fine balance of a number of types of saccharides are combined to make this liquid product. This saccharide composition provides high flexibility and hold when styling, improving the feel when using styling gel, and is combined with functions to repair damaged hair.

For styling functions, when Lissenare is used along with set resin (*1) it successfully maintains both hold strength and flexibility. Regarding appearance and feel, it has been confirmed to prevent flaking (crystallization) and stickiness in styling gel, as well as preventing catching when running fingers through hair, for a pleasant use experience. Lissenare may also function as a treatment, softening and increasing the tensile strength of hair which has hardened and weakened due to damage.

The NAGASE Group will continue to use its combined strengths to develop and globally release products with high added value, in order to contribute to a sustainable world where people live with peace of mind.

*1: Set resin is petroleum-based coated resin used in general styling formulas. It is used to maintain the shape of styled hair.

■ Styling Functions Combined with an Improved Finish

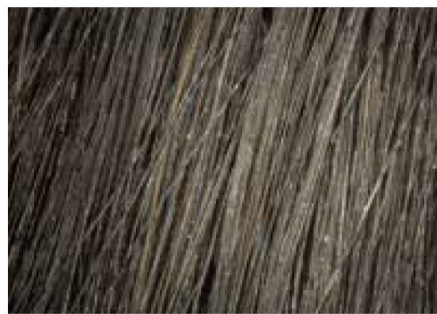
Inhibits flaking of styling agents

Lissenare™ significantly reduces flaking of hair gel compared to conventional additives

COMPARISON OF HAIR SURFACE



Gel with conventional additives



Gel with 3% Lissenare™

- Prevents flaking (crystallization) of styling gel
- Prevents stickiness
- Prevents fingers from catching when running them through hair

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