

Lissenare™

A Naturally derived, Branched Oligosaccharide Beneficial for Hair

Better fixation for flexible hair styling

Improves texture of leave on products

Damaged hair treatment to an elegant texture



An environmentally friendly, naturally derived hair care ingredient beneficial for styling and treatment

Lissenare[™] is a functional saccharide derived from starch and is mainly composed of isomalto-oligosaccharide. Isomalto-oligosaccharide exists in many Japanese traditional fermented foods and drinks and is well known in Japan. It is naturally derived, bio-degradable, and meets natural index ISO16128 (1.0) standards. This makes it suitable for hair styling and treatment products with an environmentally friendly concept.

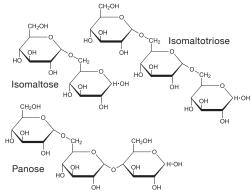
Lissenare[™] has a well-balanced isomalto-oligosaccharide composition, represented by panose and isomaltose. Panose is less sticky compared to other isomalto-oligosaccharides and isomaltose does not crystalize. This provides Lissenare[™] the ability to form a smooth and flexible film. With these features, Lissenare[™] prevents flaking of styling products by improving its flexibility. In addition, Lissenare[™] enables hair styling products to hold hair firmly while providing better flexibility, which is typically thought to be incompatible. It also improves the tensile strength and suppleness of damaged hair, making Lissenare[™] ideal for hair treatment products.

Lissenare™ is a novel ingredient for hair care products that is gentle, sustainable, and environmentally friendly.

- Inhibits flaking
- Reduces tacky and sticky texture
- Boosts hair hold
- Improves styling flexibility
- Improves suppleness and tensile strength of damaged hair

Predominant oligosaccharides of Lissenare™

Panose, isomaltose and isomaltotriose gives Lissenare $^{\!\scriptscriptstyle\mathsf{TM}}$ its unique properties.



BENEFIT 1

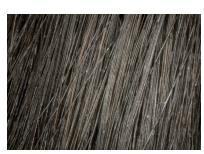
Inhibits flaking of styling agents

Lissenare[™] significantly reduces flaking of hair gel compared to conventional additives.*

COMPARISON OF HAIR SURFACE



Gel with conventional additives



Gel with 3% Lissenare™

Hair gels with conventional additives[®] or 3% Lissenare[™] were applied to hair tresses, then completely dried. The tresses were kept at 22°C 58~60% RH for an hour and combed five times. Flaking of each gel was observed. **conventional additives: 2% glycerin + 1% sorbitol*

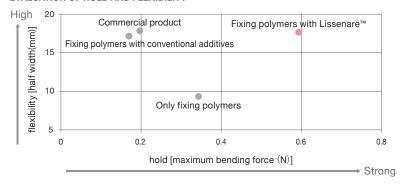
**The tresses were kept at 22°C 58~60% RH for an hour and combed five times. Flaking of each gel was observed.
**Conventional additives: 2% glycerin + 1% sorbitol*

BENEFIT 2

Enhances hold and flexibility

When used with fixing polymers, Lissenare™ enhances hold and flexibility of hair styles, which was thought to be incompatible.

EVALUATION OF HOLD AND FLEXIBILITY



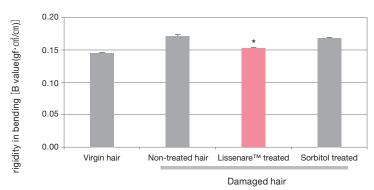
Applied either a commercial product, only fixing polymers, fixing polymers with conventional additives*, or 10% Lissenare™ to a hair tress, placed on a template, and dried at 22°C 50% RH. Bending stress was measured as hold, and half width was measured as flexibility.
***conventional additives: 5% maltitol and 5% (PEG-6, PEG-32)

BENEFIT 3

Improves texture of damaged hair

 ${\sf Lissenare^{\sf TM}} \ improves \ suppleness \ of \ damaged \ hair.$

RIGIDITY OF HAIR TRESS



vs. non-treated damaged hair, *: p<0.05

Damaged hair tresses were soaked in 5% Lissenare™ or sorbitol solution for 10 minutes and rinsed with water. B value was measured after hair tresses were dried.

B value: Indicates the rigidity when bending any object. The smaller value, the easier it is to bend.

APPLICATIONS

Hair Care

PRODUCT FORMS

Shampoo, Conditioner, Styling Gel, Hair Mist, Hair Cream, Styling Lotion, Hair Serum, Leave-in Treatment

SUGGESTED USAGE LEVEL

Hair Care 1.0-10.0%

INFORMATION

INCI NAME

Hydrolyzed corn starch and water

DESCRIPTION

Colorless solution and odorless

STORAGE

Store at room temperature. Avoid direct sunlight, and high temperature and humidity.

EXPIRATION

Twelve (12) months from the production date

PACKAGE

Tin-free steel can (Net 25 kg)

SAFETY

Data acquired

Lissenare is a trademark of Nagase Viita Co., Ltd., registered in Japan, the U.S. and other countries.



Lissenare™ is certified as Halal

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Please visit our website for further information.





Nagase Viita has received EcoVadis Platinum rating in sustainability for two consecutive years. EcoVadis is an independent institution that assesses sustainability of over 150,000 supplier companies operating in more than 185 countries across more than 250 industries. Platinum is the highest possible rating given by EcoVadis, awarded to companies whose overall score rank in the top 1% of all eligible companies

Lissenare™ is manufactured by Nagase Viita Co., Ltd. in Japan

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