#### **Detecting & repairing hair damage**

### NFG® for hair care products

#### What is NFG®?

**Product Name** 

NFG® ES-01

NFG® is a premixed composition containing Nissan Chemical's proprietary ingredient: palmitoyl dipeptide-18. Palmitoyl dipeptide-18 is a lipid peptide molecule combining fatty acids and amino acids to achieve a high safety profile and exceptional properties for the hair and scalp.

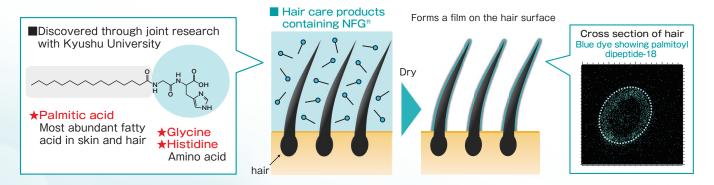
INCI	Composition (wt%)
Palmitoyl dipeptide-18	10
Stearic acid	1
1,2-Hexanediol	4
Laureth-4	8
Water	77

#### Hair care functions

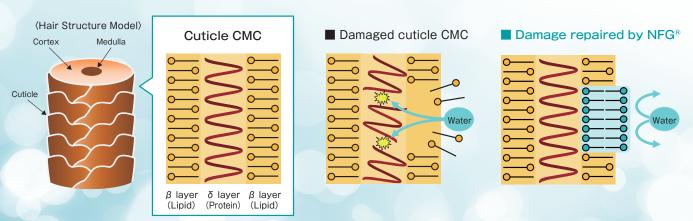
- Improves hair manageability
- Boosts elasticity
- Suppresses frizziness
- Promotes penetration of active co-ingredients
- Quickly dries hair, saving time and energy

#### Features of NFG®

When NFG® is added to hair care products, palmitoyl dipeptide-18 forms a film on the hair surface, which provides a smooth, silky touch. This film also acts as a protective coat that penetrates into the cortex of hair strand and allows for damaged segments to be repaired.



Palmitoyl dipeptide-18 fills the holes in the damaged cuticle CMC that causes hair troubles. This stops the progression of damage leading to beautiful and supple hair.





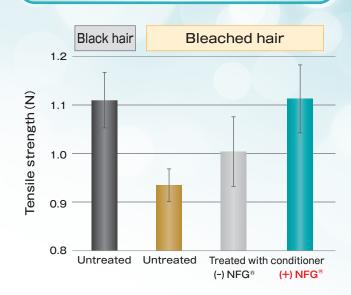
#### Functional data of NFG® for hair care

#### Makes hair supple and manageable

# Treated with a conditioner including NFG®

- 《 Evaluation procedure 》
- 1. Apply conditioner to bleached hair.
- 2. Dry with a hair dryer after rinsing.

#### Improves hair elasticity



- 《 Evaluation procedure 》
- 1. Apply conditioner to bleached hair.
- 2. Dry with a hair dryer after rinsing.

#### Suppresses frizziness even under high humidity

10 minutes after humidification (Humidity 95%)

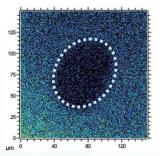
## Treated with a conditioner including NFG®

- 《 Evaluation procedure 》
- 1. Apply conditioner to curly hair.
- 2. Dry with a towel after rinsing.
- 3. Dry with a hair dryer for 5 minutes.
- 4. The hair was straightened with a curling iron.
- 5. Humidified, and the waviness/frizziness of the hair was evaluated.

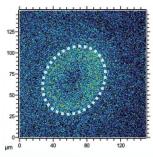
#### Promote penetration of active ingredients

Active ingredient: Succinic acid (light blue)

Treated with conditioner only



Treated with a conditioner including NFG®



Succinic acid penetrates into the hair

- 《 Evaluation procedure 》
- 1. Apply conditioner to bleached hair and rinsed.
- Evaluate succinic acid in the cross section of the hair by TOF-SIMS.

The expressions described in this product description are in accordance with the Pharmaceutical Affairs Law and the Fair Competition Regulations regarding the labeling of cosmetics. It does not indicate the effects and efficacy of cosmetics and quasi-drugs within the range approved. We do not guarantee industrial property rights such as patents. A separate survey is required.



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