# **Detecting & repairing hair damage**

# NFG<sup>®</sup> for hair care products

What is NFG<sup>®</sup>?

Product Name

NFG<sup>®</sup> ES-01

NFG<sup>®</sup> 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<br>(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<sup>®</sup>

When NFG<sup>®</sup> 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 beautiful and supple hair.



CORPORATION

# Functional data of NFG<sup>®</sup> for hair care



« 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%)



#### 《 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.

# 1.2 1.2 1.1 1.0 0.9 0.8 Untreated Untreated Treated with conditioner (-) NFG\* (+) NFG\*

« Evaluation procedure »

1. Apply conditioner to bleached hair.

2. Dry with a hair dryer after rinsing.

## Promote penetration of active ingredients

#### Active ingredient: Succinic acid (light blue)

Treated with conditioner only



Treated with a conditioner including NFG<sup>®</sup>



Succinic acid penetrates into the hair

- 《 Evaluation procedure 》
- 1. Apply conditioner to bleached hair and rinsed.
- 2. 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.



5-1, Nihonbashi 2-chome, Chuo-ku, Tokyo 103-6119, Japan Chemicals Division, Fine Chemicals Dept.

TEL:+81-3-4463-8151 URL:http://www.nissanchem.co.jp E-mail:shigan@nissanchem.co.jp

# Improves hair elasticity