ABIL® Soft AF 300

High performance aminosilicone for conditioning rinses

- Provides excellent hair conditioning properties
- Improves feel and softness of hair
- Easy to handle and process
- Cost efficient

Personal Care

INCI Name Aminopropyl Dimethicone

Chemical and physical properties (not part of specifications)	
Appearance	Clear to slightly turbid, colorless to slightly yellowish liquid (at 25 °C)
Active content	~ 99 %

Properties

ABIL® Soft AF 300 is a high molecular weight aminosilicone highly suitable for use in conditioning rinses and intensive hair treatment emulsions.

ABIL® Soft AF 300 shows a consistent structure with evenly distributed amino groups, and undisturbed silicone parts of fixed lengths, which are essential for dependable and reproducible conditioning performance. This is possible due to a new, optimized condensation process which differs from the conventional, equilibrated aminofunctional silicones, which show a more random distribution, and therefore, more blockbuilding. This blockbuilding leads to inferior and inconsistent conditioning performance of competitor products.

ABIL® Soft AF 300 provides superior safety since cyclic siloxanes (D_4/D_5) are neither used as raw materials nor formed during the condensation process. Additionally, ABIL® Soft AF 300 does not contain secondary amino groups, which are known to be a potential source of nitrosamines.

Conditioning efficacy

ABIL® Soft AF 300 provides excellent hair conditioning properties.

The combability and feel of both wet and dry hair is significantly improved. Figure 1 shows the outperforming wet conditioning properties of ABIL® Soft AF 300 in comparison to market standards Amodimethicone and Aminopropyl Dimethicone.

This effect was also verified by technical combing force measurements. The combing work was evaluated by using a Diastron MTT 175 Tensile Tester on virgin brown hair, pre-damaged by bleaching. The results shown in Figure 2 are based on four swatches each.

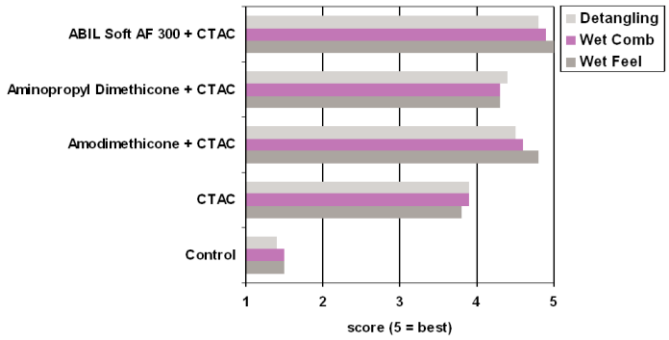

Figure 1: Wet sensory assessment.
Test formulation: rinse:
0.5% Ceteareth-25; 5.0% Cetyl Alcohol;
1.0% Cetrimonium Chloride (CTAC);
0.5% a.m. Aminosilicone; ad 100.0% water; pH=4

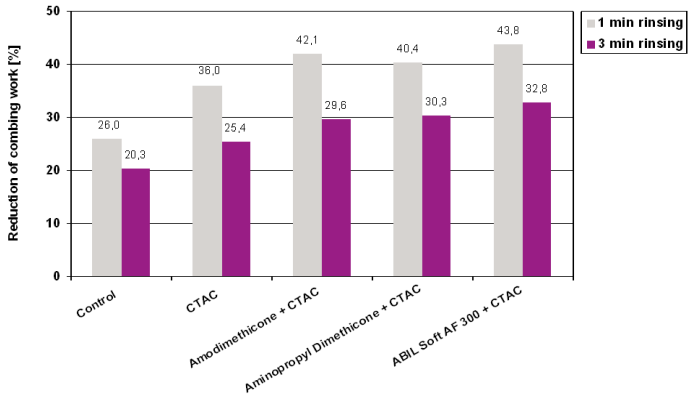

Figure 2: Wet combing force measurements.
Test formulation: rinse:
0.5% Ceteareth-25; 5.0% Cetyl Alcohol;
1.0% Cetrimonium Chloride (CTAC);
0.5% a.m. Aminosilicone; ad 100.0% water; pH=4

The properties of dry hair are clearly improved by ABIL® Soft AF 300 as well. Figure 3 shows the results of the dry sensory assessment. ABIL® Soft AF 300 outperforms standard Amodimethicone and Aminopropyl Dimethicone in this sensory assessment on dry hair.

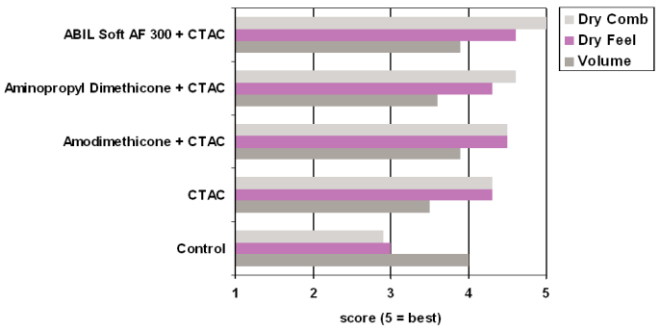

Figure 3: Dry sensory assessment.
Test formulation: rinse:
0.5% Ceteareth-25; 5.0% Cetyl Alcohol;
1.0% Cetrimonium Chloride (CTAC);
0.5% a.m. Aminosilicone; ad 100.0% water; pH=4

Processing

Due to its low viscosity, ABIL® Soft AF 300 is easy to handle.

Hair conditioners including ABIL® Soft AF 300 can be processed in a classical two-phase production or in a convenient one-phase production. In a two-phase process, ABIL® Soft AF 300 should be added to the oil phase.

Application

ABIL® Soft AF 300 can be applied in

- conditioning rinses
- intensive hair treatment emulsions
- hair dyes
- styling products

Suggested usage concentration

0.3 – 3.0 % ABIL® Soft AF 300

Packaging

200 kg drum

Storage

ABIL® Soft AF 300 can form small amounts of cyclic siloxanes under storage, especially at elevated temperature and when exposed to atmosphere.

Recommended storage to maintain cyclic siloxane contents < 0.1% for approx. one year:
at max. 25 °C, in a closed container.

It is commonly known that discoloration ("yellowing effect") of formulations containing aminosilicones like Amodimethicone or Aminopropyl Dimethicone can take place under storage. Especially in combination with certain perfumes (which contain aldehydes/ketones). Please contact your fragrance supplier/perfume house for advice on suitable perfumes.
Also low amounts of perfumes and a low pH can prevent discoloration.

Hazardous goods classification

Information concerning

- classification and labeling according to regulations for transport and for dangerous substances
- protective measures for storage and handling
- measures in accidents and fires
- toxicity and ecological effects

is given in our safety material data sheets.

Guide Line Formulations

Conditioning hair rinse WP 191/1.1	
TEGO® Alkanol 1618 (Cetearyl Alcohol)	5.0 %
VARISOFT® BT 85 Pellets (Behentrimonium Chloride)	2.0 %
ABIL® Soft AF 300	0.5 %
Water	90.5 %
Glycerin	2.0 %
Citric Acid, Perfume, Preservatives	q.s.

Preparation:

One-phase production: Heat up to 75 °C and homogenize. Cool down while stirring. Add the perfume below 45 °C. Adjust pH value to approx. 4.5.

Conditioning hair rinse WP 191/3.1	
TEGO® Alkanol 1618 (Cetearyl Alcohol)	5.0 %
VARISOFT® 300 (Cetrimonium Chloride)	3.3 %
ABIL® Soft AF 300	0.5 %
Water	89.2 %
Glycerin	2.0 %
Citric Acid, Perfume, Preservatives	q.s.

Preparation:

One-phase production: Heat up to 75 °C and homogenize. Cool down while stirring. Add the perfume below 45 °C. Adjust pH value to approx. 4.5.

Conditioning hair rinse with Creatine WP 193/1	
Phase A	
ABIL® Soft AF 300	1.0 %
TEGINACID® C Ceteareth-25	0.5 %
TEGO® Alkanol 16 (Cetyl Alcohol)	5.0 %
TEGO® Amid S 18 (Stearamidopropyl Dimethylamine)	1.0 %
Phase B	
Propylene Glycol	2.0 %
TEGO® Cosmo C 100 (Creatine)	0.5 %
Water	89.7 %
Citric Acid, 30%	0.3 %
Preservatives, Perfume	q.s.

Preparation:

Heat phases A and B separately to 75 °C. Add B to A and homogenize. Cool down while stirring. Add the perfume below 45 °C. Adjust pH value to approx. 4.5.

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