

Technical Information

ABIL® Quat 3272; ABIL® Quat 3676

Cationic silicones for hair care and skin cleansing preparations

Intended use

Conditioning agents

Benefits at a glance

- Highly substantive to skin and hair proteins because of their cationic charge
- Improvement of combability, feel and gloss of hair
- Antistatic effect
- Heat protecting properties
- Improvement of skin feel

INCI (PCPC name)

ABIL® Quat 3272: Quaternium-80
 ABIL® Quat 3676: Quaternium-80 (and) Dipropylene Glycol

Chemical and physical properties (not part of specifications)

| | ABIL® Quat 3272 | ABIL® Quat 3676 |
|------------------|---------------------|--|
| Form | Liquid, clear | Viscous liquid, clear to slightly opaque |
| Type | Cationic | Cationic |
| Active matter | 50% | 80% |
| Molecular weight | Medium | High |
| Appearance | Colorless to yellow | Colorless to yellow |

Properties

ABIL® Quat 3272 and ABIL® Quat 3676 are substantive to the hair keratin and improve combability and feel of both wet and dry hair, without leaving a greasy after feel. Additionally, electrostatic charge is reduced and the hair becomes silky, shiny and manageable.

ABIL® Quat 3272

ABIL® Quat 3272 is compatible with anionic surfactants and is designed for usage in conditioning cleansing formulations for hair and skin.

In synergistic combinations with cationic polymers it efficiently improves combability and feel of the hair. Figure 1 shows the wet test results of a sensory hair swatch test on European hair.

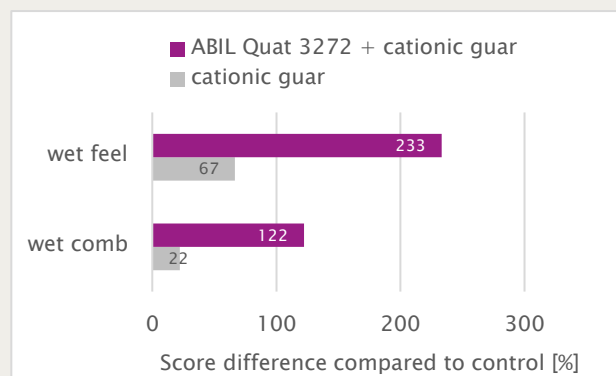


Figure 1: Conditioning performance of ABIL® Quat 3272 out of shampoo application – 9.0% SLES; 3% CAPB; 1.0% ABIL® Quat 3272; 0.5% cationic guar; 1.0% NaCl; ad 100.0% water; pH = 6.

In skin cleansing preparations, the interaction of ABIL® Quat 3272 with skin proteins provides a re-fatting effect that imparts a smooth and supple feel to cleansed skin.

ABIL® Quat 3676

ABIL® Quat 3676 is less soluble in surfactant solutions due to its longer dimethicone chain. Therefore, ABIL® Quat 3676 is more suitable for emulsion type formulations like conditioning rinses and intensive treatments.

In hair care formulations ABIL® Quat 3676 provides improved combability and a pleasant, non-greasy after feel to hair.

Figure 2 shows the results of dry friction force measurements after a rinse application. It is obvious that the addition of ABIL® Quat 3676 reduces significantly the friction force which correlates well with dry feel of the hair.

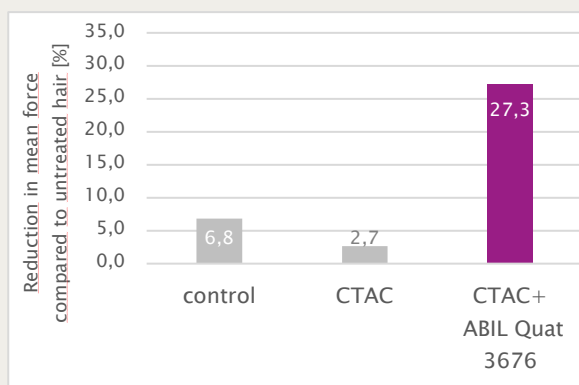


Figure 2: Reduction of dry friction force by of ABIL® Quat 3676 out of conditioning rinse application – 0.5% Cetearath-25; 5.0% Cetyl Alcohol; 0.5% Cetrimonium Chloride (CTAC); 0.63% ABIL® Quat 3676; ad 100.0% water; pH = 4.

Additionally, ABIL® Quat 3676 provides heat protecting benefits out of conditioning rinse treatment.

Application

ABIL® Quat 3272 is preferred for use in shampoos, shower and bath preparations and liquid soaps.

ABIL® Quat 3676 is preferred for use in conditioning rinses and intensive treatment products.

Preparation

Shampoos

ABIL® Quat 3272 is ideally dissolved in at least one of the used surfactants, together with the water insoluble components and solubilizers, before addition of water.

Conditioners

ABIL® Quat 3676 is added to the oil phase.

Recommended usage concentration

ABIL® Quat 3272:

- 0.2 – 2.0% in shampoos and skin cleansing preparations
- 0.5 – 4.0% in hair rinses

ABIL® Quat 3676:

- 0.2 – 1.0% in shampoos and skin cleansing preparations
- 0.2 – 2.0% in hair rinses

Hazardous goods classification

Information concerning

- classification and labelling according to regulations for transport of chemicals
- protective measures for storage and handling
- measures in case of accidents and fire
- toxicological and ecotoxicological effects

is given in our safety data sheets.

Guideline formulations

If you are interested in guideline formulations please visit our homepage <https://personal-care.evonik.com>

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