Technical Information

VARISOFT® EQ 65 MB

Readily biodegradable ester quat with excellent conditioning performance

Intended use

Conditioning agent.

Benefits at a glance

- Excellent conditioning agent with good cost performance relation
- Emulsifier with typical cationic skin feel
- Readily biodegradable
- Solvent-free and high flash point
- Vegetable based

INCI (PCPC Name)

Distearoylethyl Dimonium Chloride; Cetearyl Alcohol

Chemical and physical properties (not part of specifications)

Appearance (20 °C)	Pellets
Active matter	Approx. 65%

Properties

VARISOFT® EQ 65 MB is an ester quat based on high purity stearic acid and is compounded with Cetearyl Alcohol. It is a readily biodegradable conditioning agent with a high flash point.

VARISOFT® EQ 65 MB improves the conditioning properties of the wet and dry hair. It can also act as an emulsifier providing a sensory profile typical of cationic emulsions:

- Substantive to hair and skin
- Improves detangling and wet combing of hair
- Provides good wet feel of hair
- Superior dry combing and dry feel of hair
- Substantive to skin for good water resistance
- Cationic emulsifier for skin care emulsions

Conditioners including VARISOFT® EQ 65 MB have a very rich and creamy appearance.

In a cream rinse treatment, VARISOFT® EQ 65 MB showed an excellent rinseability and was more easily rinsed out of hair when compared to Behentrimonium Chloride (VARISOFT® BT 85 Pellets), a high performance conditioning agent.

Figure 1 shows the combing force measurement results of virgin brown hair, predamaged by permanent wave treatment, generated with Diastron MTT 175. The results are based on 3 swatches each. The test formulations were conditioning rinses containing 1 wt% active conditioning agent based on 0.5% Ceteareth-25; 5.0% Cetyl Alcohol; 1.5% VARISOFT® EQ 65 MB resp. VARISOFT® BT 85 Pellets; and water to 100.0%, pH = 4.

At a realistic rinsing time of 1 min., the reductions of wet coming forces are excellent and very comparable for both quaternaries. With increasing rinsing time, the efficacy of VARISOFT® EQ 65 MB decreases. This could be of advantage for the consumer (reduced water consumption, less time consuming).

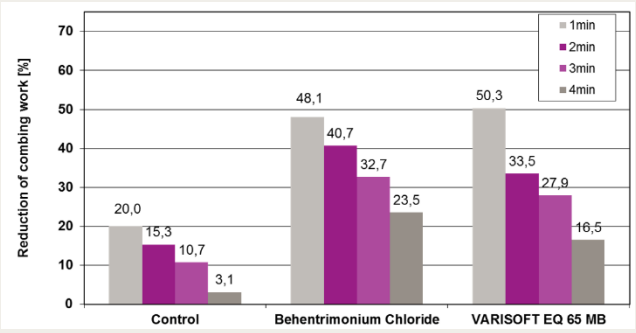

Figure 1: Reduction of combing work depending on rinsing time – comparison between Behentrimonium Chloride and VARISOFT® EQ 65 MB.

Conditioning efficacy

VARISOFT® EQ 65 MB shows excellent conditioning properties, which outperform Cetrimonium Chloride and are similar to the very efficient Behentrimonium Chloride.

Technical half head tests with 10 test persons – performed by an external test institute – verified the excellent conditioning properties of VARISOFT® EQ 65 MB.

The test formulations contained

0.5% TEGINACID® C Pellets (Ceteareth-25)
5.5% Cetearyl Alcohol
2.0% active cationic

The pH value had been adjusted to 4.5.

Figure 2 half head study shows that for most parameters tested VARISOFT® EQ 65 MB outperformed CTAC (Cetrimonium Chloride).

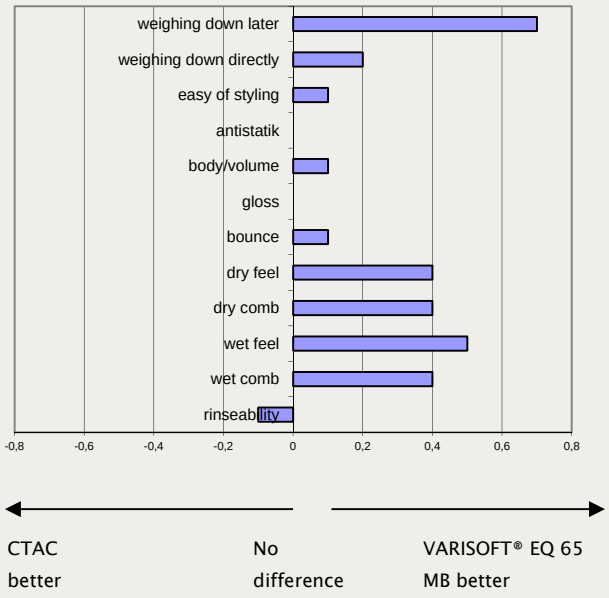

Figure 2: Half head test results – comparison between VARISOFT® EQ 65 MB and CTAC (Cetrimonium Chloride).

Figure 3 half head study shows that the conditioning properties of VARISOFT® EQ 65 MB are very similar to the ones of the highly efficient BTAC, VARISOFT® BT 85 Pellets (Behentrimonium Chloride).

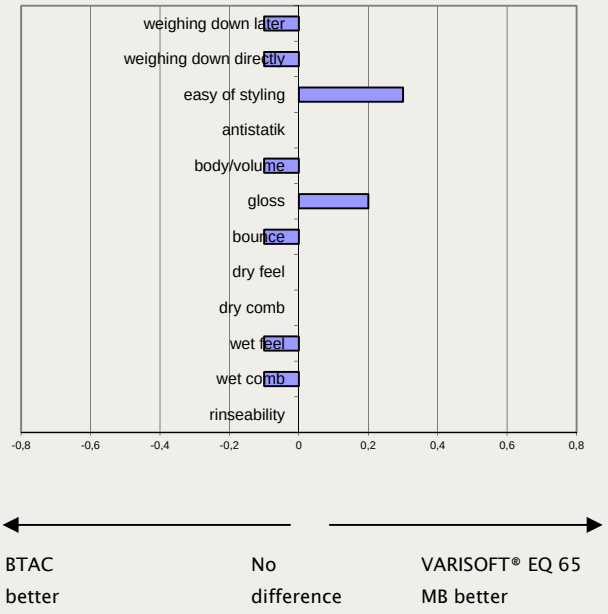

Figure 3: Half head test results – comparison between VARISOFT® EQ 65 MB and BTAC (Behentrimonium Chloride), i.e. VARISOFT® BT 85 Pellets.

Application

VARISOFT® EQ 65 MB can be used for formulating

- Hair conditioners (rinse-off and leave-in)
- Skin care creams and lotions

Due to the content of Cetearyl Alcohol, the amount of additional fatty alcohol can be reduced.

Preparation

VARISOFT® EQ 65 MB can be dispersed in water at approximately 75 °C. Addition of nonionic emulsifiers such as Ceteareth-25 would improve the processability of VARISOFT® EQ 65 MB in water.

The viscosity of conditioners including VARISOFT® EQ 65 MB can be optimized by applying a second homogenization step after cooling down to room temperature.

VARISOFT® EQ 65 MB shows great stability at lower pH values. At formulation-pH of 5 and above, VARISOFT® EQ 65 MB tends to hydrolyze. Therefore, we recommend adjusting the pH of a cream rinse conditioner formulation containing VARISOFT® EQ 65 MB to around 4.

Recommended usage concentration

1 – 10 % VARISOFT® EQ 65 MB

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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