

## VARISOFT® BT 85 Pellets

Quaternary ammonium compound used as a strong hair conditioning agent

- strong conditioning properties
- improves wet and dry compatibility
- makes hair soft and silky
- Supplied as pellets: very easy to handle
- vegetable based

Personal Care

## INCI Name (CTFA Name)

Behentrimonium Chloride

### Chemical and physical properties (not part of specifications)

Appearance at room temperature	pellets
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### Properties

- Strong conditioning agent
- Superior cationic emulsifier
- Improves wet and dry combability
- Good antistatic properties
- Makes hair soft and silky
- High solids content
- Substantive to hair and skin
- Spreads easily on hair
- Free flowing flake form
- Easy to formulate
- Easily rinsed off hair
- Vegetable based

VARISOFT® BT 85 Pellets has superior antistatic properties and minimizes curl droop compared to Cetrimonium Chloride (VARISOFT® 300).

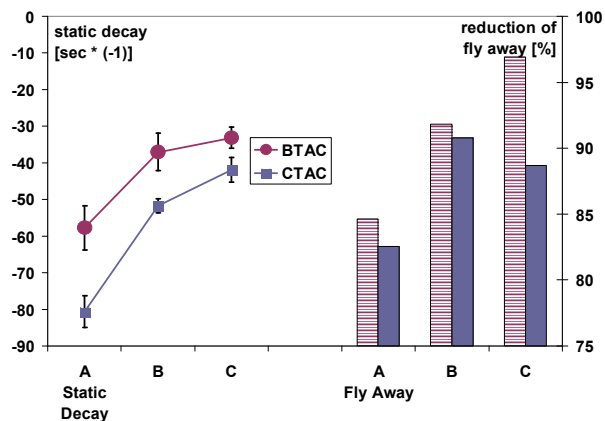
A comparison of three different concentration levels from a simple hair rinse formula was performed. The concentrations were based upon an equivalent cost basis of VARISOFT® BT 85 Pellets ("BTAC") and VARISOFT® 300 ("CTAC"), see Table 1.

Comparison	BTAC	CTAC
A	0.3 %	0.5 %
B	0.6 %	2.0 %
C	1.2 %	2.0 %

**Table 1: Concentration levels based upon equivalent costs for BTAC and CTAC for the conditioning assays.**

The formulations were tested according to their conditioning properties towards chemically damaged European hair. No significant differences between VARISOFT® BT 85 Pellets and Cetrimonium Chloride (VARISOFT® 300) were found for the properties comb and feel (wet and dry).

Concerning the antistatic properties, VARISOFT® BT 85 Pellets is superior to Cetrimonium Chloride (VARISOFT® 300) at three concentration levels (see fig. 1). Both a static decay test and an anti-fly-away test (charging by combing) were performed.



**Figure 1: Comparison of antistatic properties of VARISOFT® BT 85 Pellets (BTAC) and VARISOFT® 300 (CTAC) at an equivalent costs basis (see Table 1).**

At lower concentrations, VARISOFT® BT 85 Pellets provides a good hydrophobic effect without weighing down the hair. Therefore providing a longer lasting hairstyle, compared to CTAC, as evidenced by using the curl retention test.

### Application

- Conditioning hair rinses
- Conditioning shampoos
- Leave-in conditioners
- Body and hand creams and lotions

### Suggested usage concentration

1 – 10 % VARISOFT® BT 85 Pellets

### Packaging

150 kg pallet (6 x 25 kg drums)

### Processing hint

Loss of volatile compounds, e.g. by repeated heating of a batch, may lead to a change in the melting behaviour and might negatively influence the processing.

## Hazardous goods classification

Information concerning

- classification and labelling 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 material safety data sheets.

## Guide Line Formulations

<b>Hot Oil Treatment</b>	
<b>Phase A</b>	
Water, deion.	96.5 %
Polyquaternium-10	1.0 %
Hydroxyethylcellulose	0.5 %
<b>Phase B</b>	
VARISOFT® BT 85 Pellets	1.0 %
Lauramide DEA	1.0 %
<b>Phase C</b>	
Citric acid (25 % aq. solution)	to pH 4.5 – 5.5
Preservative, Parfum	q.s.
<b>Preparation:</b> Sprinkle pre-weighed polyquaternium-10 and hydroxyethylcellulose into deionized water while stirring. Continue agitation until phase A is clear. Pre-mix phase B until a uniform gel is formed. Heat phase A to 65 °C. Add unheated phase B to phase A with gentle agitation. Cool to room temperature (approximately 30 °C) with mixing. Adjust pH with Citric Acid.	

<b>Easy Comb Conditioner AC-120</b>	
<b>Phase A</b>	
Water, deion.	93.0 %
<b>Phase B</b>	
TEGO® Alkanol 16 (Cetyl Alcohol)	1.5 %
VARISOFT® BT 85 Pellets	1.5 %
VARISOFT® 300 (Cetrimonium Chloride)	1.0 %
Propylene Glycol	2.0 %
<b>Phase C</b>	
ABIL® B 8832 ( Bis-PEG/PPG-20/20 Dimethicone)	1.0 %
Citric acid (25 % aq. solution)	to pH 4.5 – 5.5.
Preservative, Perfume	q.s.
<b>Preparation:</b> Heat the water of phase A and phase B to 70 – 75°C. Add phase B to phase A with agitation. Cool to 50 – 60 °C and add ABIL® B 8832 and mix. Cool to 30 – 35 °C and adjust the pH with Citric Acid.	

<b>Easy Comb Conditioner</b>	
<b>Phase A</b>	
Water, deion.	93.7 %
<b>Phase B</b>	
TEGO® Alkanol 16 (Cetyl Alcohol)	1.5 %
VARISOFT® BT 85 Pellets	1.5 %
VARISOFT® 300 (Cetrimonium Chloride)	1.0 %
<b>Phase C</b>	
Water, deion.	2.0 %
Hydrolyzed Collagen	0.3 %
<b>Phase D</b>	
Citric acid (25 % aq. solution)	q.s.
Preservative, Perfume	q.s.
<b>Preparation:</b> Heat phases A and B to 70 – 75 °C. With mixing, add phase B to phase A. Cool, with mixing to 45 °C. Add pre-mixed phase C. Cool to room temperature with mixing. Adjust the final pH with Citric Acid.	

<b>Economy Conditioner</b>	
<b>Phase A</b>	
Water, deion.	96.8 %
<b>Phase B</b>	
TEGO® Alkanol 16 (Cetyl Alcohol)	2.0 %
VARISOFT® BT 85 Pellets	0.6 %
VARISOFT® 432 PPG (Dicetyldimonium Chloride)	0.6 %
<b>Phase C</b>	
Citric acid	pH to 4.5 – 5.5
Preservative, Perfume	q.s.
<b>Preparation:</b> Heat phases A and B to 70 – 75 °C. Add phase B to phase A with agitation. Continue mixing while cooling to room temperature. Adjust the pH with Citric Acid.	

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