Technical Data Sheet

Silsoft HC 400 Conditioning Agent

Description

Silsoft HC 400 conditioning agent is an easy to use cationic aminofunctional silicone emulsion. It has been demonstrated that Silsoft HC 400 conditioning agent improves wet and dry combability and facilitates detangling. These performance benefits make this material an excellent candidate for a wide variety of hair care applications/formulations where conditioning is key.

INCI: Water (and) Amino Bis-Propyl Dimethicone (and) Trideceth-12 (and) TEA-Dodecylbenzenesulfonate (and) Cetrimonium Chloride

Key Features and Typical Benefits

- Improves wet and dry combability
- Reduces fly-away
- Leaves a soft, natural feel

Typical Physical Properties

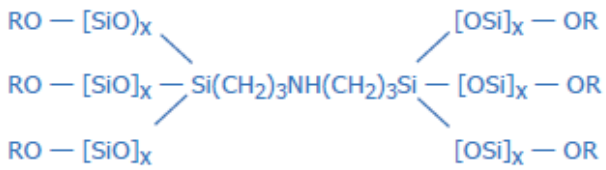
- Milky-white emulsion
- 41-45% solids
- Neutral pH
- Silicone actives 35%

Potential Applications

- Rinse-off Hair Conditioners
- Leave-on Hair Conditioners
- Hair Repair Treatments
- Hot Oil Treatments
- Deep Conditioners

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Chemical Structure



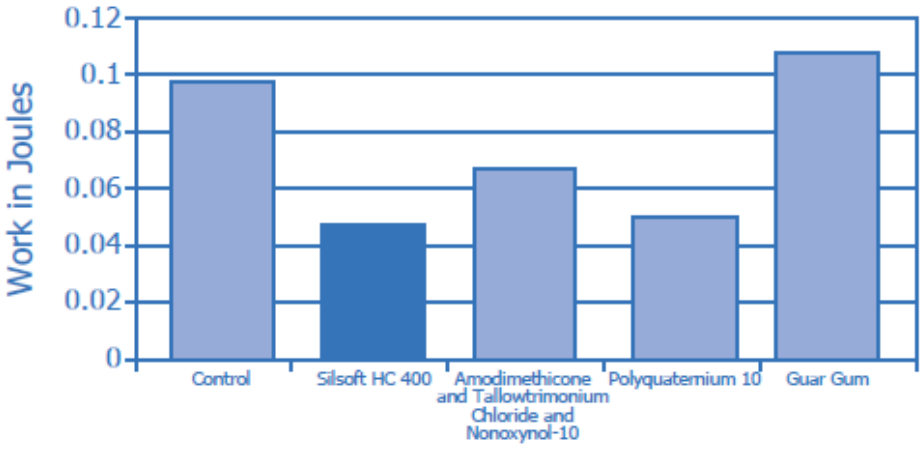
Silsoft HC 400 conditioning agent is a highly stable cationic emulsion. The ingredient primarily responsible for the conditioning performance of Silsoft HC 400 conditioning agent is a cross-linked aminofunctional silicone.

Performance Data

Testing Protocol

1.5 grams of Rinse-off Conditioner I (The control formula contains no conditioning agent), with the associated conditioning age at 1% active, is gently rubbed onto wet bleached blonde tresses. The tresses are then rinsed for 1 minute with 35ºC - 40ºC water (see figures 1 - 5).

Figure 1: Rinse-off Conditioner Instron Wet Combing Data

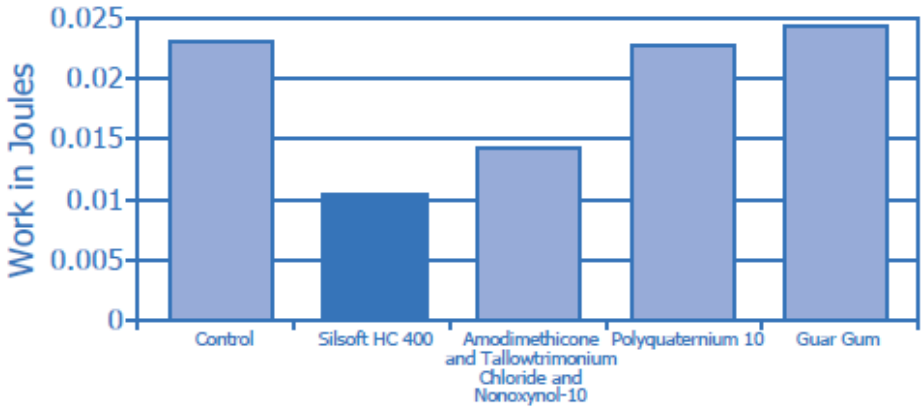


Silsoft HC 400 conditioning agent reduces the work required to comb wet hair, diminishing the possibility of mechanical damage.

Potential Applications

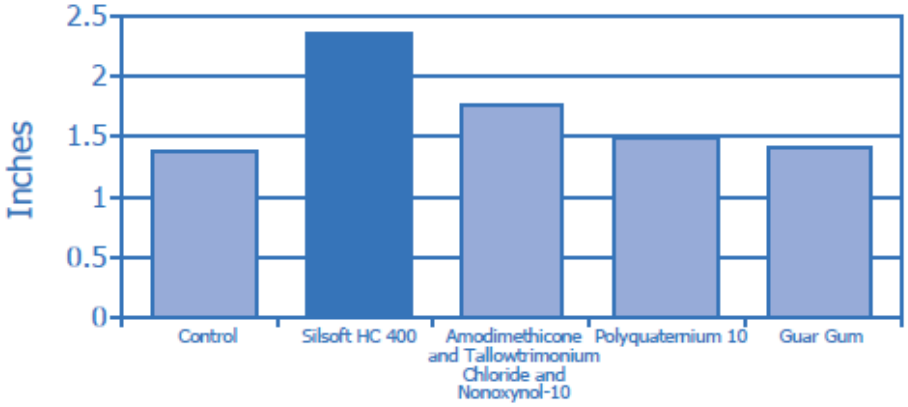
Figure 2: Rinse-off Conditioner Instron Dry Combing Data

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Silsoft HC 400 conditioning agent improves dry combing, reducing the static and improving the alignment and smoothness of the hair.

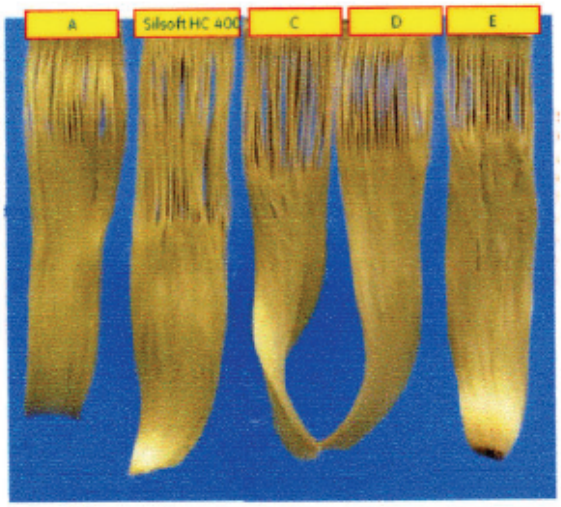
Figure 3: Detangling Data



Silsoft HC 400 conditioning agent facilitates detangling, reducing damage done to the hair through excessive force.

Figure 4: Detangling

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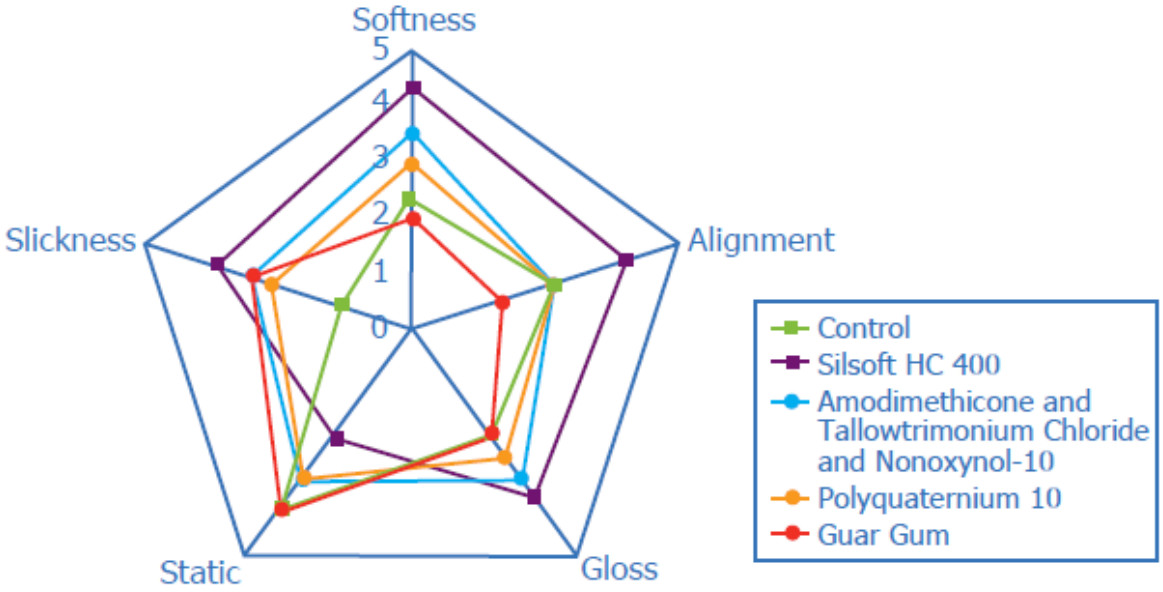
A. Control
C. Amodimethicone and Tallowtrimonium Chloride and Nonoxynol-10
D. Polyquaternium 10
E. Guar Gum

Silsoft HC 400 conditioning agent improves detangling of wet hair, reducing the work of combing and possible damage to the hair shaft.

Performance Data (continued)

Figure 5: Sensory Experience

Sensory Data of Silsoft HC 400 Conditioning Agent Hair is soft and manageable. Improved gloss and reduced static leave hair smooth, shiny and looking healthy.



Silsoft HC 400 conditioning agent outperforms the competition in all measured sensory parameters.

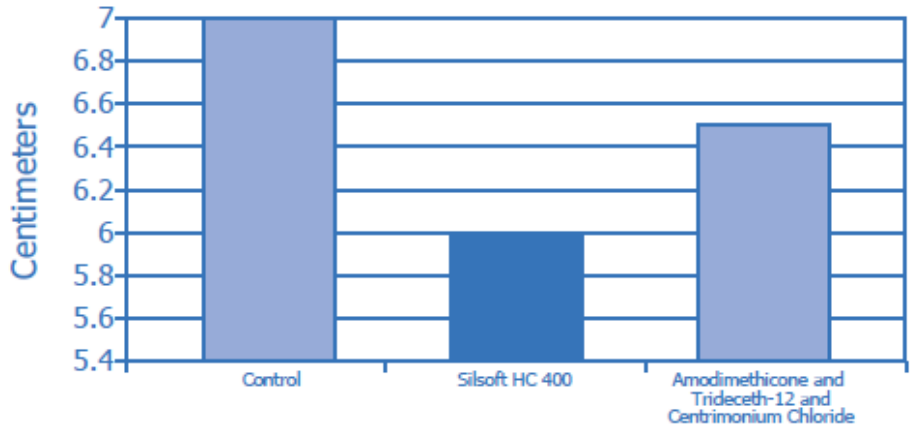
Testing Protocol

1.5 grams of Rinse-off Conditioner II (The control formula contains no nconditioning

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agent), with the associated conditioning agent at 1% active, is gently rubbed onto dark brown Caucasian tresses. The tresses are then rinsed for 1 minute with 35ºC - 40ºC water (see Fugure 6).

Figure 6: Reduced Fly-Away

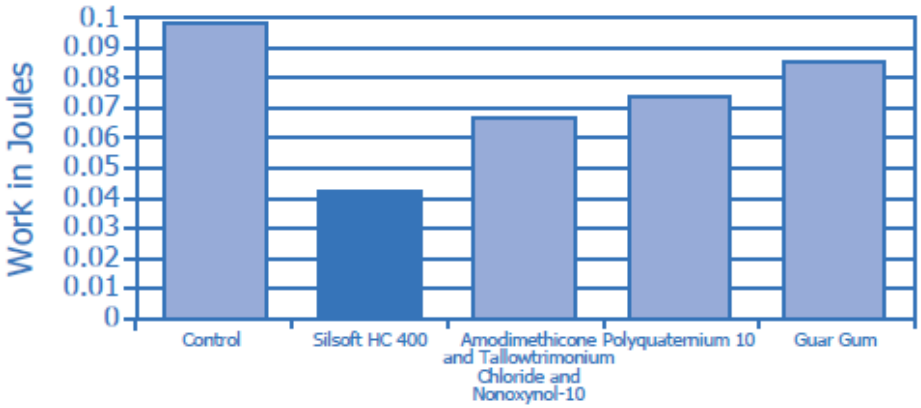


Silsoft HC 400 conditioning agent reduces static and fly-away imparting hair with a smooth, glossy finish.

Testing Protocol

1.5 gram of Leave-on conditioner II (The control formula contains no conditioning agent), with the associated conditioning agent at 1% active, is gently rubbed onto bleached blonde tresses (see Figure 7).

Figure 7: Leave-on Conditioner Instron Wet Combing Data



Silsoft HC 400 conditioning agent, which can be formulated into a wide variety of hair care products, improves wet and dry combing.

Formulation Guide Lines

Silsoft HC 400 conditioning agent is best dispersed into the water phase, preferentially at ambient temperature, with continuous mixing. The resulting cationic emulsion can be

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slowly incorporated into the manufacturing process within a wide range of operating agent can easitly be integrated into a wide range of conditioning formulations.
Recommended use levels are between 2-5% "as is" for perceivably improved conditioning benefits.

Formulations

Rinse Off Conditioner I	
Ingredients	%W/W
Phase A	
Deionized Water	q.s. to 100
Silsoft HC 400	2.9
Phase B	
Cetyl Alcohol	2.0
Cetearyl Alcohol	4.0
Ceteareth-20	2.0
Dicapryl ether	2.0
Phase C	
Preservative	q.s.
Fragrance	q.s.

Procedure:
Combined Phase A and heat to 70ºC. Combine Phase B and heat to 70ºC. Combine Phase A and B under agitation. Add Phase C below 40ºC. Continue stirring until 35ºC.

Rinse off Conditioner II		
Phase	Components	%
A	Cetearyl Alcohol	4.8
	Ceteareth-20	3.9
	Propyl Paraben	0.10
B	Water Distilled	85.6
	Methyl Paraben	0.20
	Cetrimonium Chloride (25%)	2.4
	Silsoft HC 400 conditioning agent	3.0

Procedure:

1. Weight phase A and heat to 70ºC;
2. Weight phase B and heat to 70ºC;

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3. Add phase A to B, continue stirring until 35ºC.

Leave On Conditioner II	
Ingredients	%W/W
Phase A	
PEG-40 Hydrogenated Castor Oil	0.5
PEG-7 Glyceryl Cocoate	0.5
Phase B	
Distilled Water	q.s. to 100
Silsoft HC 400	1.5
DL-Panthenol	0.2
ProDew 400	0.5 (INCI Name: Sodium PCA, Betaine, Sorbitol, Glycine, Alanine, Proline, Serine, Threonine, Arginine, Lysine, Glutamic Acid
Phase C	
Preservative	q.s.
Fragrance	q.s.

Procedure:
Combine Phase A. Charge water to separate vessel. Add Phase A to water. Add remaining Phase B ingredients, one at a time, under agitation. Add Phase C. Continue stirring until product is homogeneous.

Patent Status
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