

Silsoft^{*} HC 400

conditioning agent

Product 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%

Momentive Performance Materials provides versatile materials as the starting point for our creative approach to ideas that help enable new developments across hundreds of industrial and consumer applications. We are helping customers

solve product, process, and performance problems; our silanes, fluids, elastomers, sealants, resins, adhesives, urethane additives, and other specialty products are delivering innovation in everything from car engines to biomedical devices.

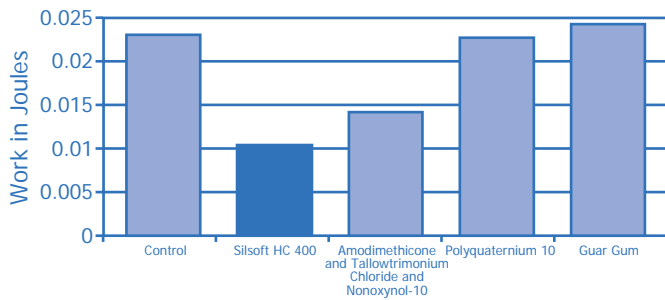
From helping to develop safer tires and keeping electronics cooler, to improving the feel of lipstick and ensuring the reliability of adhesives, our technologies and enabling solutions are at the frontline of innovation.



Silsoft* HC 400 conditioning agent

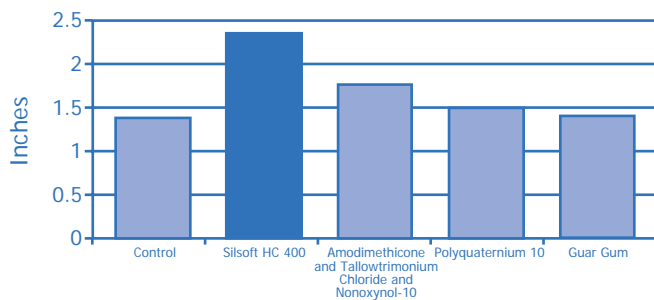
Potential Applications

Figure 2: Rinse-off Conditioner
Instron Dry Combing Data



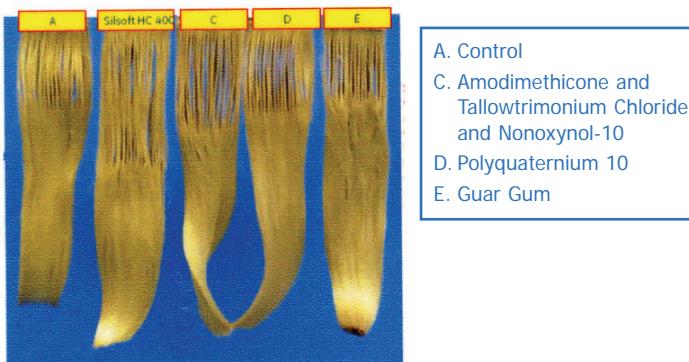
Silsoft HC 400 conditioning agent improves dry combing, reducing the static and improving the alignment and smoothness of the hair.

Figure 3: Detangling Data



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

Figure 4: Detangling

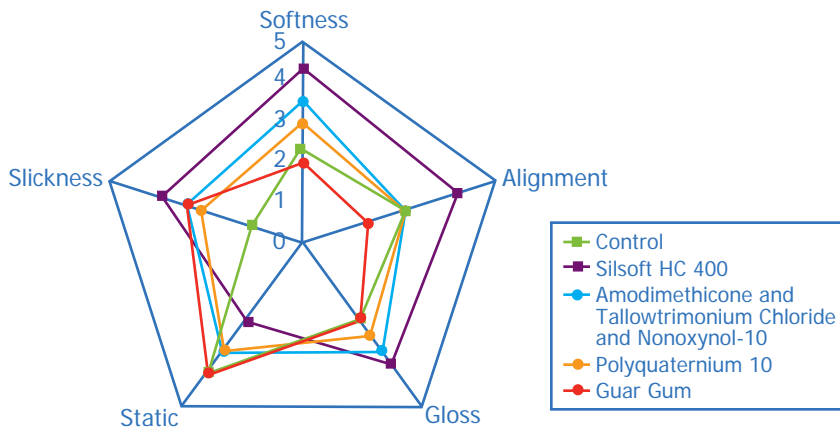


Silsoft HC 400 conditioning agent improves detangling of wet hair, reducing the work of combing and possible damage to the hair shaft.

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.

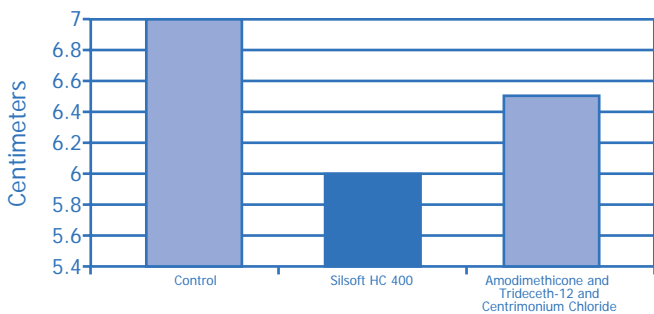


Silsoft HC 400 conditioning agent outperforms the competition in all measured sensory parameters.

Testing Protocol

1.5 grams of Rinse-off Conditioner II (The control formula contains no conditioning 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 35°C - 40°C water (see Figure 6).

Figure 6: Reduced Fly-Away

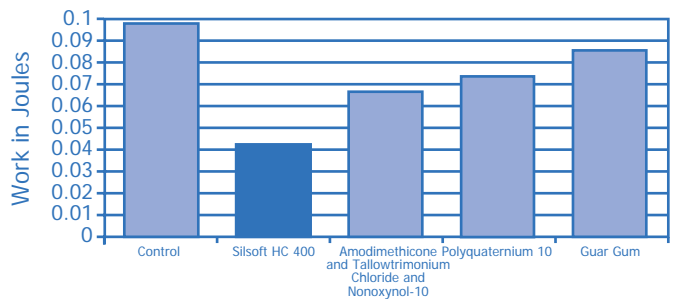


Silsoft HC 400 conditioning agent reduces static and fly-away imparting hair with a smooth, glossy finish.

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.

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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 slowly incorporated into the manufacturing process within a wide range of operating temperatures. With its low viscosity and neutral pH, Silsoft HC 400 conditioning agent can easily be integrated into a wide range of conditioning formulations.

Recommended use levels are between 2-5% "as is" for perceptibly 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:

Combine Phase A and heat to 70°C. Combine Phase B and heat to 70°C. Combine Phase A and B under agitation. Add Phase C below 40°C. Continue stirring until 35°C.

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 70°C;
- 2) Weight phase B and heat to 70°C;
- 3) Add phase A to B, continue stirring until 35°C.

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	qs 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.

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Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

Product Safety, Handling and Storage

Customers considering the use of this product should review the latest Material Safety Data Sheet and label for product safety information, handling instructions, personal protective equipment if necessary, and any special storage conditions required. Material Safety Data Sheets are available at www.momentive.com or, upon request, from any Momentive Performance Materials representative. Use of other materials in conjunction with Momentive Performance Materials products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

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At sea	Radio U.S. Coast Guard, which can directly contact Momentive Performance Materials at 518.233.2500 or CHEMTREC at 800.424.9300.	

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