

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

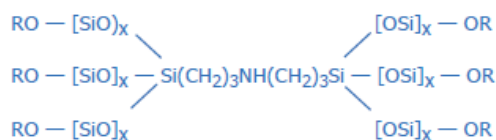
Typical Physical Properties

- 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

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

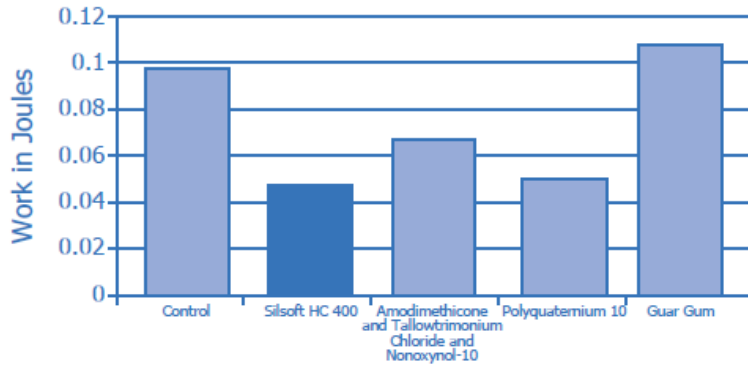
silicone.

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 35°C - 40°C water (see figures 1 - 5).

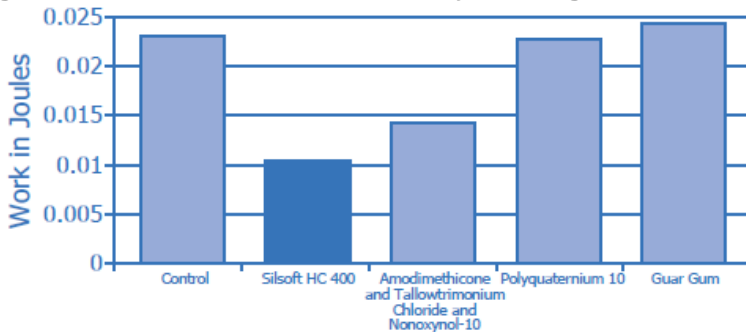
Figure 1: Rinse-off Conditioner Instron Wet Combing Data



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

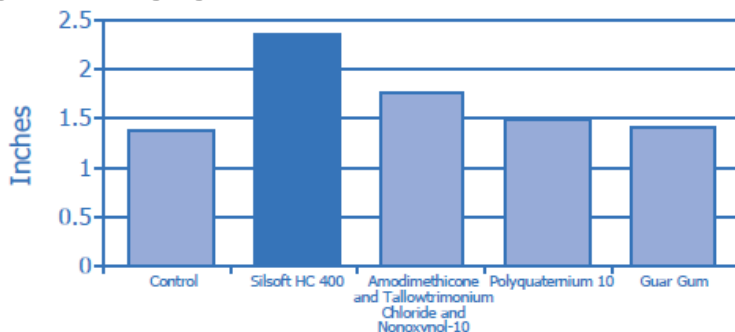
Potential Applications

Figure 2: Rinse-off Conditioner Instron Dry Combing Data



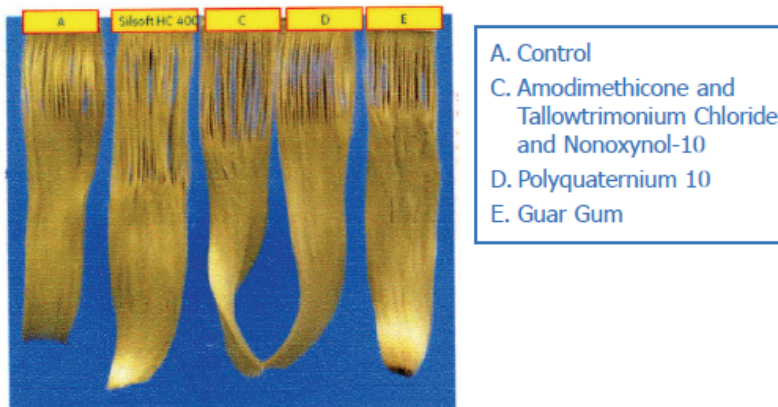
Silsoft HC 400 conditioning agent improves dry combing, reducing the static and improving the alignment and smoothness of the hair.

Figure 3: Detangling Data



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

Figure 4: Detangling

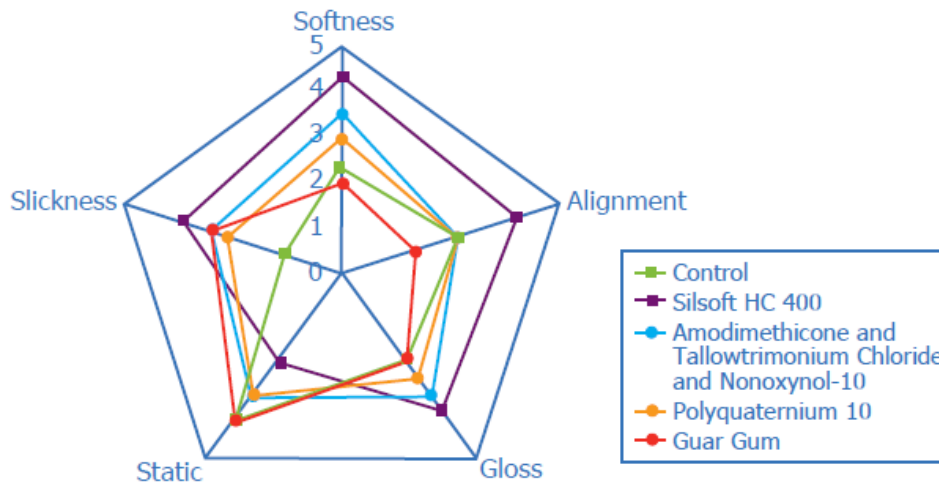


Silsoft HC 400 conditioning agent improves detangling of wet hair, reducing the work of combing and possible damage to the hair shaft.

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.

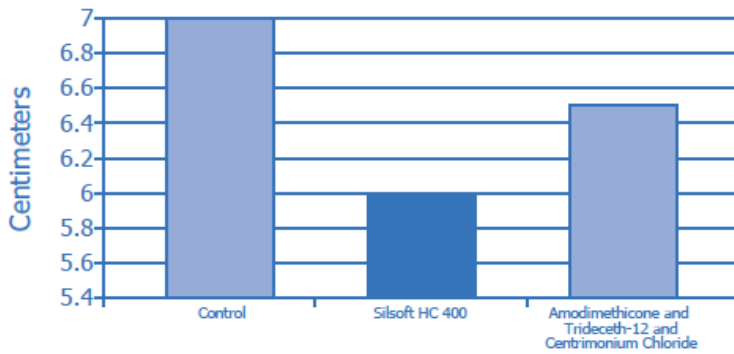


Silsoft HC 400 conditioning agent outperforms the competition in all measured sensory parameters.

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

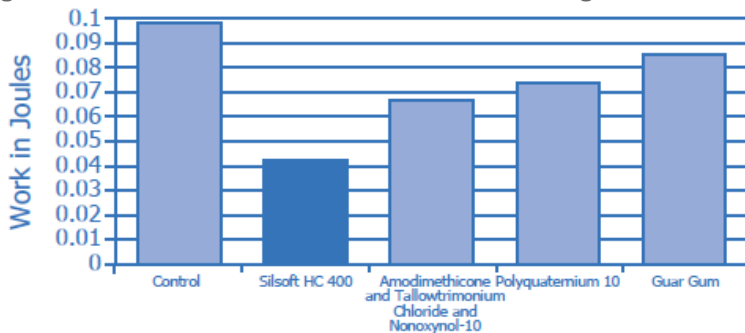


Silsoft HC 400 conditioning agent reduces static and fly-away imparting hair with a smooth, glossy finish.

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.

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 agent can easily 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 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.

<u>Rinse off Conditioner II</u>		
<u>Phase</u>	<u>Components</u>	<u>%</u>
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.

<u>Leave On Conditioner II</u>	
<u>Ingredients</u>	<u>%W/W</u>
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

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 should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at www.momentive.com or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM 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.

Contact Information

For product prices, availability, or order placement, contact our customer service at Momentive.com/CustomerService/

For literature and technical assistance, visit our website at: www.momentive.com

DISCLAIMER:

THE MATERIALS, PRODUCTS AND SERVICES OF MOMENTIVE PERFORMANCE MATERIALS INC. AND ITS SUBSIDIARIES AND AFFILIATES (COLLECTIVELY “SUPPLIER”), ARE SOLD SUBJECT TO SUPPLIER’S STANDARD CONDITIONS OF SALE, WHICH ARE INCLUDED IN THE APPLICABLE DISTRIBUTOR OR OTHER SALES AGREEMENT, PRINTED ON THE BACK OF ORDER ACKNOWLEDGMENTS AND INVOICES, AND AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION, RECOMMENDATIONS, OR ADVICE CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SUPPLIER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING ITS PRODUCTS, MATERIALS, SERVICES, RECOMMENDATIONS OR ADVICE. EXCEPT AS PROVIDED IN SUPPLIER’S STANDARD CONDITIONS OF SALE, SUPPLIER AND ITS REPRESENTATIVES SHALL IN NO EVENT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS OR SERVICES DESCRIBED HEREIN.

Each user bears full responsibility for making its own determination as to the suitability of Supplier’s materials, services, recommendations, or advice for its own particular use. Each user must identify and perform all tests and analyses necessary to assure that its finished parts incorporating Supplier’s products,

materials, or services will be safe and suitable for use under end-use conditions. Nothing in this or any other document, nor any oral recommendation or advice, shall be deemed to alter, vary, supersede, or waive any provision of Supplier's standard Conditions of Sale or this Disclaimer, unless any such modification is specifically agreed to in a writing signed by Supplier. No statement contained herein concerning a possible or suggested use of any material, product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Supplier covering such use or design, or as a recommendation for the use of such material, product, service or design in the infringement of any patent or other intellectual property right.

Momentive and the Momentive logo are trademarks of Momentive Performance Materials Inc.