DOW CORNING

DOW CORNING® 8600 Hydrophilic Softener

FEATURES

- Soft handle, similar to standard aminosilicone
- Hydrophilic
- Microemulsifiable
- Good durability and wash resistance
- Very low yellowing
- 100% active

Durable hydrophilic, low yellowing organosilicone softener

APPLICATIONS

- Imparts durable, wash resistant softness to fabrics.
- Does not cause the fabric to become hydrophobic like traditional aminofunctional silicone softeners.
- Easily formulated into a stable microemulsion that can be applied to fabrics by padding or exhaustion.

TYPICAL PROPERTIES

Specification writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales representative prior to writing specifications on this product.

CTM*	Parameter	Unit	Value
0176B	Appearance		Opaque fluid
50 CQ	Viscosity	cP	3000-12000
0094	Nitrogen content	%	0.65-0.7

* CTM: Corporate Test Method, copies of CTMs are available on request.

DESCRIPTION

DOW CORNING 8600 Hydrophilic Softener is an organofunctional silicone fluid that is designed to provide durable softness to all types of natural and blended woven and knitted fabrics, without compromising the hydrophilic nature of the fabric.

Traditional softeners (e.g. aminofunctional silicones) generally cause the fabric to become extremely hydrophobic. DOW CORNING 8600 Hydrophilic Softener is designed to provide durable, wash resistant performance.

Current commercial hydrophilic softeners generally lose the majority of their softening performance after 1-2 wash cycles.

Another feature of DOW CORNING 8600 Hydrophilic Softener is that the final emulsion will not cause any significant yellowing to the fabric after application, which organic and aminofunctional silicone based softeners have the potential to do. The polymer is 100% active and is easily formulated into a microemulsion that can be applied onto fabric by padding or exhaustion.

HOW TO USE

DOW CORNING 8600 Hydrophilic Softener can be readily formulated into a microemulsion using a variety of commercially available surfactants. The microemulsion may be applied by the pad application or exhaustion methods for wovens, knits, cotton and polyester-cotton blended fabrics. The amount of silicone solids required for optimum performance will vary depending on the substrate. The data enclosed is based on 0.75% silicone solids on weight of fabric.

The type of surfactants used can effect the performance of DOW CORNING 8600 Hydrophilic Softener, and formulators are encouraged to experiment in order to optimize both the hydrophilic and softening

properties of the polymer. The following formulation can be considered as a basic guide.

Table 1 : Suggested starting formulation

Ingredient	% Content
DOW CORNING 8600 Hydrophilic Softener	20
Genapol® UD 050[1]	3
Genapol® UD 110[2]	7
Acetic acid (glacial)	0.1
Water	4
Water	4
Water	41.9
Water	19.8
Acetic acid (glacial)	0.2

[1] C11-oxo alcohol polyglycol ether with 5 EO - supplied by Clariant
[2] C11-oxo alcohol polyglycol ether with 11EO - supplied by Clariant

Method

Mix DOW CORNING 8600 Hydrophilic Softener, Genapol UD 050, Genapol UD 110 and the initial acid for 10-15 minutes until homogeneous.
Add 1st water and stir for 30 minutes.
Add 2nd water and stir for 1 hour.
Add 3rd water and stir for 1 hour.
Add final water with acid and stir for a further hour.

ATTENTION: Sample formulations are provided for illustrative purposes only. Dow Corning does not warrant their merchantability, fitness for use, performance, efficacy, safety or freedom from patent infringement. They are not commercial formulations and have not been subjected to extensive testing. It is your responsibility to thoroughly test any formulation before use.

NOTES ON THE EXPERIMENTAL DATA

Figure 1: 'Hand' Evaluation; cotton knit.

This data was generated from a 'blind' evaluation of a series of treated fabrics that were treated with the same amount of 'on-fabric' silicone, and using identical conditions. The fabrics were evaluated by a selected team and an average result taken. The scale was between 0 and 5. The latter being the highest possible performance.

Figure 2: Water absorption data; cotton knit.

This test was used to assess the wettability (hydrophilicity) of the fabric after treatment with the silicone-based fabric softener, and to compare it with the untreated fabric ('Blank'). The test involved measuring the time taken for a regulated drop of distilled water to wet the fabric. An average of 6 readings were taken. Prior to testing, the fabrics were all preconditioned in a constant temperature / humidity environment.

Note: Standard aminosiloxanes typically give results in excess of 60 seconds - this is not fully reflected in the graphs.

Figure 3: Whiteness index data.

The whiteness index was determined using a 'Hunterlab Colorimeter'. The average of 3 readings was taken as the final result.

The wash cycles used a 40ºC (104ºF) temperature setting and an ASTM recommended detergent. The fabrics were dried using an electric 'tumble drier'.

HANDLING PRECAUTIONS

Product safety information required for safe use is not included. Before handling, read product and safety data sheets and container labels for safe use, physical and health hazard information. The material safety data sheet is available on the Dow Corning website at www.dowcorning.com. You can also obtain a copy from your local Dow Corning sales representative or Distributor or by calling your local Dow Corning Global Connection.

USABLE LIFE AND STORAGE

When stored at or below 40ºC (104ºF) in the original unopened containers, this product has a usable life of 18 months from the date of production.

Attention

DOW CORNING 8600 Hydrophilic Softener should be stored at a temperature above 20ºC (68ºF) to avoid freezing. If the storage temperature should fall below this temperature, the contents of the container should be warmed and mixed thoroughly prior to use, to ensure the product is homogeneous.

PACKAGING

This product is available in 190kg drums.

Samples are available in 1kg.

LIMITATIONS

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

HEALTH AND ENVIRONMENTAL INFORMATION

To support Customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For further information, please see our website, www.dowcorning.com or consult your local Dow Corning representative.

LIMITED WARRANTY INFORMATION - PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customers' tests to ensure that Dow Corning's products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

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Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

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DOW CORNING DISCLAIMS LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

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Figure 1: 'Hand' Evaluation; cotton knit.

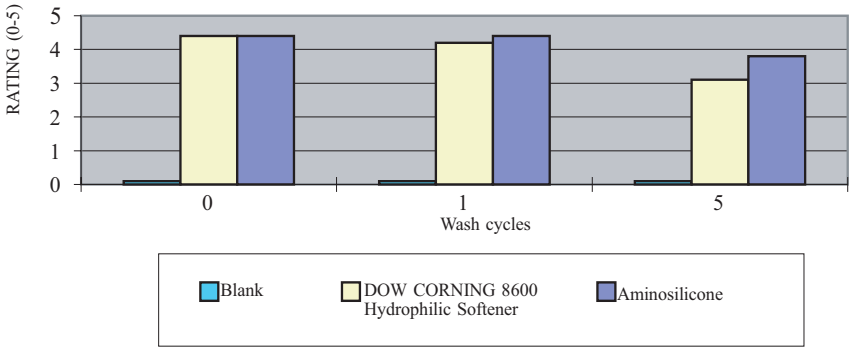
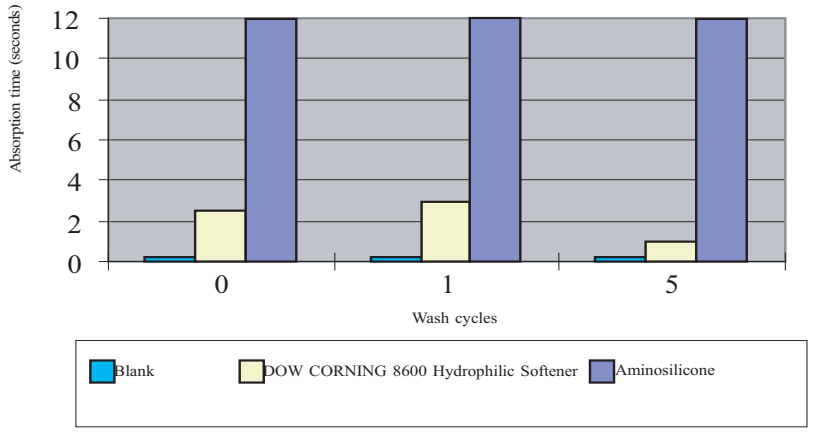


Figure 2: Water absorption data; cotton knit.



Typical aminosiloxanes have an absorption time in excess of 60 seconds.

Figure 3: Whiteness index data.