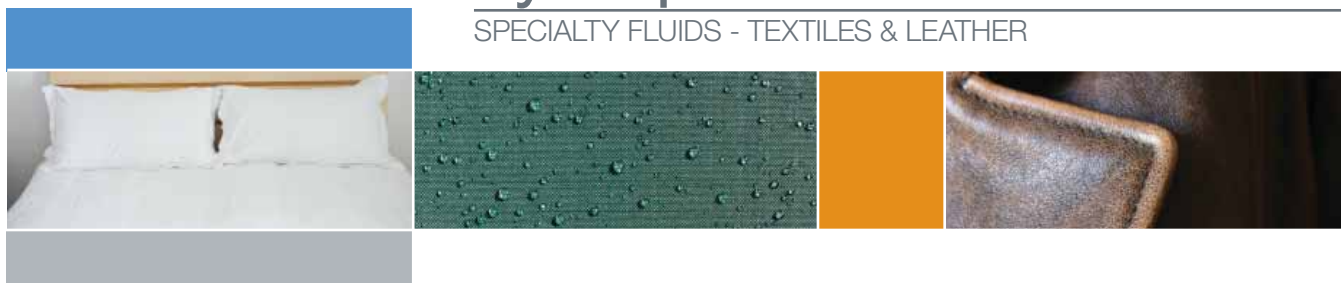


MAGNASOFT* HSSD hydrophilic textile softener

SPECIALTY FLUIDS - TEXTILES & LEATHER



Magnasoft HSSD can be an efficient hydrophilic silicone softener for a wide range of fabrics, such as 100% cotton, polyester/cotton blends, wool, rayon, as well as acrylic wovens, nonwovens and knits.

Key Features and Typical Benefits

Magnasoft HSSD hydrophilic textile softener is a water-dispersible aminomodified hydrophilic softener. It can impart the soft, silky hand characteristics of traditional amino-silicones but with the added property of hydrophilicity. Magnasoft HSSD hydrophilic textile softener typically provides superior softening, hydrophilicity and non-yellowing properties compared to competitive hydrophilic products.

Durable softening and hydrophilicity can be achieved with Magnasoft HSSD hydrophilic textile softener in the presence or absence of durable press resins. A luxurious hand is typically imparted to substrates treated with Magnasoft HSSD hydrophilic textile softener at low add-on levels (1-2 weight percent).

Magnasoft HSSD hydrophilic textile softener is easy to use because it is water-dispersible. Its non-ionic nature makes it compatible with other components that might be used during the finishing of nonwovens, wovens or knits.

Typical Physical Properties	
Appearance	Pale yellow
Actives, %	100
Color, GVS, max	2
Viscosity at 25 °C, cSt	3,500
Solvent	Water-dispersible

Typical properties are average data and are not to be used as or to develop specifications.

Performance Data

Nonwoven Fabrics

Magnasoft HSSD hydrophilic textile softener was pad bath-applied to 100% thermalbonded polyester and 100% spunbonded polypropylene at a 1.0% actives level. Magnasoft HSSD hydrophilic textile softener imparted a soft, luxurious feel to both nonwovens and reduced wetting times of both materials from >300 sec to <1 sec.

Table 1: Magnasoft HSSD Hydrophilic Textile Softener Performance on Nonwoven Fabrics

Fabric	Percent Silicone Add-On	Softness ⁽¹⁾	Wettability ⁽²⁾ , sec
100% Thermalbonded polyester			
Magnasoft HSSD hydrophilic textile softener	1	1	<1
Water only (control)	—	10	>300
100% Spunbonded polypropylene (1.3 oz)			
Magnasoft HSSD hydrophilic textile softener	1	1	<1
Water only (control)	—	10	>300

(1) Scale: 1 = Softest, 10 = Harshes

(2) AATCC 79-1986

Note: Test data. Actual results may vary.

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Performance Data (continued)

Woven Fabrics

Table 2 shows the results of applying Magnasoft HSSD hydrophilic textile softener to 100% cotton terry cloth, 65/35 = polyester/cotton broadcloth and 100% cotton knit fabrics. These fabrics exhibited substantially improved softness with no reduction in hydrophilicity. In addition, there was no reduction in fabric whiteness, either initially or after 100 seconds of exposure at 200 °C.

Table 2: Magnasoft HSSD Hydrophilic Textile Softener Performance on Woven Fabrics

Fabric	Percent Silicone Add-On	Dp ⁽¹⁾ Resin	Percent Reflectance ⁽²⁾			Softness ⁽³⁾	Wettability ⁽⁴⁾ , seconds
			Initial	at 200 °C			
				50 seconds	100 seconds		
100% cotton terrycloth (S420) Set I Magnasoft HSSD hydrophilic textile softener	2.0	No	67	58	51	1	<1
Water only (control)	—	No	67	60	43	10	1
Set II Magnasoft HSSD hydrophilic textile softener	1.0	No	68	—	46	2	<1
Water only (control)	—	No	66	—	44	10	1
Set III Magnasoft HSSD hydrophilic textile softener	1.0	Yes	68	—	48	3	<1
Resin only (control)	—	Yes	68	—	49	10	<1
65/35 = Polyester/cotton broadcloth (S7409) Magnasoft HSSD hydrophilic textile softener	1.0	Yes	78	—	60	3	4
Resin only (control)	—	Yes	80	—	69	10	4
100% cotton knit (S459) Magnasoft HSSD hydrophilic textile softener	1.0	Yes	76	—	51	2	<1
Resin only (control)	—	Yes	73	—	56	10	<1

(1) Formulations contained 15 parts DMDHEU durable press resin (38%)

(3) Scale; 1 = Softest, 10 = Harshest

(2) "Colorquest" Sphere Spectrophotometer

(4) AATCC 79-1986

Note: Test data. Actual results may vary.

Knit Fabrics

The performance of Magnasoft HSSD hydrophilic textile softener was compared to a competitive silicone softener on 100% cotton and 50/50 = polyester/cotton knits at 0.5% and 1.0% silicone solids (BOWF). As Table 3 shows, Magnasoft HSSD hydrophilic textile softener exhibited superior non-yellowing and softness properties on both knits. The hydrophilic properties of both silicones were comparable.

Table 3: Magnasoft HSSD Hydrophilic Textile Softener Performance on Knit Fabrics

Fabric	Percent Silicone Add-On	Softness ⁽¹⁾	Wettability ⁽²⁾ , sec	Percent Reflectance ⁽³⁾ at 200 °C	
				Initial	100 sec
100% cotton knit (S459) Set I Magnasoft HSSD hydrophilic textile softener	0.5	1	<1	79	55
Competitive hydrophilic silicone	0.5	3	<1	76	52
Water only (control)	—	10	<1	76	43
Set II Magnasoft HSSD hydrophilic textile softener	1.0	1	<1	80	55
Competitive hydrophilic silicone	1.0	4	<1	77	51
Water only (control)	—	10	<1	76	43
50/50 = Polyester/cotton (S7421) Set III Magnasoft HSSD hydrophilic textile softener	0.5	1	2	96	81
Competitive hydrophilic silicone	0.5	4	1	88	74
Water only (control)	—	8	12	86	58
Set IV Magnasoft HSSD hydrophilic textile softener	1.0	1	1	95	80
Competitive hydrophilic silicone	1.0	3	1	91	77
Water only (control)	—	8	12	86	58

(1) Scale: 1 = Softest, 10 = Harshest

(2) AATCC 79-1986

(3) "Colorquest" Sphere Spectrophotometer

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Note: Test data. Actual results may vary.

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