Technical Data Sheet

Magnasoft™ HSSD Hydrophilic Textile Softener

Magnasoft* HSSD

Description

Magnasoft HSSD is an efficient hydro phil ic silicone softener for a wide range of fabrics, such as 100% cotton, polyester/ cotton blends, wool, rayon and acrylic wovens, nonwovens, and knits.

Key Features and Benefits

Magnasoft HSSD hydrophilic textile softener is a water-dispersible aminomodified hydrophilic softener based on new tech nology developed by GE Advanced Materials - Silicones. It is designed to impart the soft, silky hand charac teristics of traditional aminosilicones but with the added property of hydrophilicity. Testing has shown that Magnasoft HSSD hydrophilic textile softener provides superior softening, hydrophilicity, and non-yellowing properties compared to competitive hydrophilic products.

Durable softening and hydrophilicity are achieved with Magnasoft HSSD hydrophilic textile softener in the presence or absence of durable press resins. A luxurious hand is 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 nonionic nature makes it compatible with other components that might be used during the finishing of nonwovens, wovens or knits.

Typical Physical Properties

Appearance	Clear to slight haze

Actives, %	100
Color, GVS, max	2
Viscosity at 25°C, cSt	3700
Solvent	Water-dispersible

Processing Recommendations

Performance

Nonwoven Fabrics

Magnasoft HSSD hydrophilic textile softener was pad bath-applied to 100% thermalbonded polyester and 100% spun bonded 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 = Harshest
(2) AATCC 79-1986

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 o after 100 sec 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],sec
				at 200°C			
			Initial	50 sec	100 sec		
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%)
(2) “Colorquest” Sphere Spectrophotometer
(3) Scale; 1 = Softest, 10 = Harshest
(4) AATCC 79-1986

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)	
				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

Patent Status

Standard copy to come

Product Safety, Handling and Storage
Standard copy to come

Limitations
Standard copy to come

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