

Magnasoft* SRS

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Description

Magnasoft SRS textile softener is a novel linear, polydimethylsiloxane-amino poly alkylene oxide copolymer. It is designed to provide soft, silky, full hand to fabrics treated with fluorocarbon soil release additives, while incurring little or no interference with the soil release properties. The softness provided by Magnasoft SRS softener is durable for numerous detergent washes. Magnasoft SRS textile softener imparts superior softness and very low yellowing, compared to conventional aminosilicones, when applied to a wide variety of fabrics. In addition, fabrics treated with Magnasoft SRS textile softener are not hydrophobic. It imparts a slow-wetting character to fabrics.

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Key Features and Benefits

Magnasoft SRS textile softener provides performance properties in both the textile finishing process and the treated fabric:

- Does not interfere with soil release properties of fabrics treated with fluorocarbon soil release agents
- Can be coapplied with fluorocarbon soil release agents
- Provides a high level of softness for all types of fabrics
- Is easily diluted with water or alcohol
- Provides dilutions that are extremely shear stable
- Provides water dilutions that have excellent compatibility with finishing baths
- Very low yellowing
- Is an excellent material of choice for all normal application methods such as pad bath, exhaustion and spray

Typical Physical Properties

Appearance	Translucent yellow liquid
Viscosity at 25°C, cP	2500
Specific Gravity, 25/25°C	1.02
Amine Content, %	0.13

Active Copolymer Concentration, %	30
Solvent	Dipropylene glycol
Preferred Diluent	Water

Potential Applications

Magnasoft SRS textile softener is a great candidate for use in textile finishing as a premium softener for all types of fabrics, including cotton, synthetics and cotton/synthetic blends, and especially for those that are also treated with fluorocarbon soil release agents. It is a very effective softener for use in wrinkle-free garments that are treated with durable press resin and fluorocarbon soil release agent. It is also a superior softener for knit and woven fabrics, including those that are durable press resin-treated. Since Magnasoft SRS textile softener does not require emulsification, its water dilutions have excellent shear stability. Therefore, it is an excellent softener for applications where normal, emulsified softeners do not show adequate shear stability (such as in EVAC systems).

Magnasoft SRS textile softener is normally applied as a water dilution that is blended into the treatment bath formulation to provide the desired silicone add-on.

Processing Recommendations

Soil Release and Softness

The data presented below demonstrate the superior soil release and softness provided by Magnasoft SRS textile softener to fluorocarbon and durable press resin treated 100% cotton twill. Performance was compared to that of:

- LE-460, a conventional dimethyl silicone emulsion
- Magnasoft Plus softener, a high-performance aminosilicone
- Magnasoft HSSD hydrophilic softener, a silicone-aminopolyalkyleneoxide terpolymer
- 80/20 blend of Magnasoft HSSD and Magnasoft Plus softeners

All treatments also contained 10% of a 44% solids DMDHEU resin catalyzed with 1.5% catalyst. To improve pad bath compatibility, 0.5% of a secondary alcohol ethoxylate surfactant with an HLB of 15 was used.

The data in Table 1 indicate that Magnasoft SRS textile softener provides superior softness, along with very little loss in soil release properties. It also provides durable softness to the fabric, since the treated fabric retained most of its initial softness — even after five washings. Soil release performance with Magnasoft SRS textile softener is only slightly reduced over that obtained with fluorocarbon alone.

Table 1: Soil Release Rating, Softness and Silicone Durability on 100% Cotton Twill Fabric Treated with 1.0% FC-248, 1.0% Silicone, BOWF

Treatments	Soil Release Rating ⁽¹⁾ (Dirty Motor Oil)				Softness ⁽²⁾		
	Initial	1 Wash	5 Washes	Re-Stain & 1 Wash	Initial	1 Wash	5 Washes
(Silicone/FC-248/Resin)							
Magnasoft SRS textile softener	1	3	3.5	3.5	7	7	6
Magnasoft HSSD textile softener	1	3	3.5	3	5	3	3
Magnasoft Plus textile softener	1	1.5	3	2	8	6	5
Magnasoft HSSD textile softener/ Magnasoft Plus textile softener,							
4/1 Blend	1	2	3.3	3	6	4	3
LE-460	1	2	3	3	4	3	3
FC-248/Resin Only	1	3.5	4	4	2	2	2

(1) Soil Release was determined by AATCC Test Method 130-1990, using the Stain Replic Scale: 1-5. Washed with 120°F water.

(2) Softness was rated by a Hand Panel of five people. Softness Rating Scale: 8 = Very soft, 1 = Harsh.

Patent Status

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