

Magnasoft™ SilQ Textile Enhancer

Product Description

The globalization of the textile markets has had significant repercussions for the industry, not the least of which is the ever-increasing number of new lines that are being launched annually by retailers. This has affected textile mills and dye houses as much as anyone else. As a result, they are seeking multifunctional products and developing forgiving processes in order to reduce costs and to market fabrics with long-term appeal to consumers. Magnasoft SilQ textile enhancer was developed by Momentive Performance Materials' laboratories in response to such market needs.

Magnasoft SilQ textile enhancer is part of our prestigious line of textile enhancers, which includes such world-known grades as Magnasoft SRS textile softener and Magnasoft DerMa NT textile enhancer. Magnasoft SilQ textile enhancer is a linear, non-reactive, high molecular weight quaternary amino silicone polymer with the various components having been carefully engineered to meet strict performance requirements.

Magnasoft SilQ textile enhancer can deliver a luxuriously soft and flexible hand feel to most types of cellulosic, regenerated cellulosic and cellulosic blends of fabrics and garments. This typically is further enhanced by a deep, voluminous and smooth softness that is not usually associated with silicone materials.

Fabrics treated with Magnasoft SilQ textile enhancer typically are hydrophilic and, remarkably, retain hydrophilicity even after high temperature dry/cure conditions as well as on ageing of the fabric.

Though Magnasoft SilQ textile enhancer is easily dispersible in water in the presence of certain emulsifiers, its affinity for the fiber surface is such that it largely remains on the fabric even after repeated home laundry cycles.

In tests conducted in our laboratories, emulsions of Magnasoft SilQ textile enhancer have exhibited outstanding shear stability and low yellowing at extremes of pH and temperature. As a result, Magnasoft SilQ textile enhancer may be applied onto fabrics using most types of finishing equipment, including high speed padding, kiss rolls, exhaustion, jet finishing and others.

Key Features and Typical Benefits

- Slippery, voluminous and in-depth softness on virtually all types of fabrics as opposed to a greasy hand feel
- Due to excellent exhaustibility and affinity with fibers, exhibits unique and unusually powerful softness effect at low use levels
- Quickly absorbs water and perspiration; minimal impact on the hydrophilic nature of cotton and cotton blends
- Fabrics and garments treated with Magnasoft SilQ textile enhancer remain hydrophilic on aging
- Provides stretch recovery with bouncy and drapable effect, particularly on knits
- Almost self-emulsifiable; can generate emulsions that possess high shear and pH stability (acid and alkaline)
- Exhibits durable softness to home laundry washes, particularly on cellulose based fabrics
- Causes virtually no yellowing of white and light shade fabrics
- Typically, does not affect the shade of dark color fabrics

Typical Physical Properties

Appearance	Light yellow liquid
Viscosity at 25 °C, cSt	15,000
Density at 25 °C, gr/cm ³	0.980
Flash Point, °C	>100

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

Potential Applications

Magnasoft SilQ textile enhancer is a textile softener that can deliver a rich range of advantages to virtually all types of knit and woven fabrics. Magnasoft SilQ textile enhancer can be particularly effective on cotton knits and woven fabrics where it provides slippery, voluminous and pliable hand feel as well as quick water/perspiration absorption in addition to typical silicone softener effects.

Magnasoft SilQ textile enhancer is normally applied as a water emulsion. Because of its polar nature, Magnasoft SilQ textile enhancer is easily dispersed in water using emulsifiers in simple mixing devices and containers widely available throughout the industry. There is typically no need for homogenization or colloid milling to emulsify Magnasoft SilQ textile enhancer. Table 1 shows a typical guide

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formulation and procedure to prepare a 20% silicone actives emulsion of Magnasoft SilQ textile enhancer. If such emulsions are intended to be stored for extended periods, it is recommended that a biocide is added to retain sterility.

In tests conducted in our laboratories, emulsions of Magnasoft SilQ textile enhancer possess extraordinary shear stability in a wide pH range (3~12), at high temperatures and in the presence of salts. Therefore, Magnasoft SilQ textile enhancer may be applied under very demanding conditions such as high-speed continuous pad-bath finishing, jet finishing, foam and spraying finishing, processes that are typically designed for mass textile finishing potentially resulting in considerable costs savings to the textile mills.

Optimum dose levels of Magnasoft SilQ textile enhancer are subject to type of fabric and level of softness required, but 10~30 g/l (for 0.2~0.6% silicone pick-up) of 20% silicone actives emulsion is typically recommended.

Magnasoft SilQ textile enhancer may be combined, blended or formulated with a broad range of cationic and/or nonionic textile auxiliaries as well as other silicone materials, so as to differentiate the performance. Typically, these may include organic quats, amphoterics (betaines) or imidazolines, alkylolamine ester, fatty acid amide, ethoxylated/propoxylated surfactants, polyethylene wax emulsions, starch, other water soluble or emulsifiable polymers, amino silicones, amino/polyether silicones or other silicone emulsions. Such formulations may be developed for use in specific applications such as textile finishing, spinfinishes, thread lubrication etc.

Table 1: Guide Formulation for Microemulsion of Magnasoft SilQ Textile Enhancer

Ingredients	20% Silicone Active Formulation [weight %]	Function	Notes
Magnasoft SilQ Textile Enhancer	23.5	Silicone active	
Tridecyl Alcohol 6EO Ethoxylate	4.2	Emulsifier	HLB 11.5
Tridecyl Alcohol 12EO Ethoxylate	8.8	Emulsifier	HLB 14.6
Glacial Acetic Acid	0.3		
Sodium Acetate	0.3		
Water	62.9		

Product formulations are included as illustrative examples only. Momentive makes no representation or warranty of any kind with respect to any such formulations, including, without limitation, concerning the efficacy or safety of any product manufactured using such formulations.

Procedure

- Charge Magnasoft SilQ textile enhancer and emulsifiers. Mix well till fully homogeneous
- Dissolve sodium acetate and acetic acid into water
- Slowly add the water solution to silicone/emulsifiers blend while mixing. Avoid stirring too much air into the mixture
- Filter into the containers

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.

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