

## HT Fine Chemical Co., Ltd

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# **Softening Agent**

Softening agent is a kind of chemical material that can change the static and dynamic friction coefficient of fiber. When the static friction coefficient changed, the touch has a smooth feeling and easy to move on the fiber or fabric; when the dynamic friction coefficient changed, the micro structure between the fibers easy to move within each other, that is, the fiber or fabric is easily deformed. The combination of these two

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- From the ionic classification, textile softeners can be divided into anion type, cationic type and nonionic softening agent. Main component classification, because the basic composition of softener is mainly long-chain fatty acid (saturated or unsaturated) derivative and Silicone II, it can be divided into fatty acid softener, silicone softener, fatty acids and silicone blends. At present, the market for low gear softener is often the fatty acids and silicone mixtures of such products.
- Softening finishing is an important finishing process in printing and dyeing. Textiles, in the processing of repeated treatment, will become rough and the hand feeling become coarse, the general synthetic fiber fabric is worse, especially microfiber fabric. In order to make the fabric soft, smooth, comfortable feel, it's required to be finished with softening agents, the widely applied method. In addition, in the chemical fiber spinning, all kinds of fiber spinning, weaving and other processes, a large number of softening agent has been used, which is because that with the textile processing in the high speed and small bath ratio of large-scale use, fabric and the friction between the fabric and equipment increased, easy to produce abrasions, flaws and so on. The use of softening agent can make the fiber itself with the processing conditions to adapt to the softness and smoothness to avoid damage. Therefore, fabric softener is an important
- The advantages of softening agent in textile:
- 1. To obtain the required softness, usually can be described as: slippery, submissive, super soft, elastic, dry, lubrication;
- 2. Increase technical performance, such as: Anti-Static, hydrophilic, elastic, sewing, rubbing fastness, etc.
- 3. Give the synthetic fiber a natural touch, improve the comfort by improving the two effects (moisture absorption regulation, smoothness) of the fibers;
- 4. In addition, Softener is also used in the process of raising, wrinkle-proof, sewing and winding of silk.











#### Smooth Softening Paste HT-188

- This product USES the non-traditional formula and technology, successfully all kinds of softener characteristics set at an organic whole, with cationic softener excellent and the characteristics of the plump, and at the same time, also has the organic silicon smooth, bright and elastic advantages.
- [Main composition]Fatty acid derivatives.
- [General properties]
- Appearance: light yellow thick liquid
- Ionicity: cation
- PH value: 5-7 (1% aqueous solution)
- Solubility: soluble in water
- Stability: the hard water, acid, alkali stability
- [Product features]
- 1. A good hydrophilicity, especially suitable for towels, underwear for hydrophilic fabric;
- 2. Low foam, low viscosity, do not stick cylinder, can be very good to avoid a soft fabric after the color difference problem;
- 3. Environmental protection biodegradable;
- 4. Have a low yellowing characteristics, suitable for light color and white fabric;
- 5. Have excellent softness, smoothness and fluffy sex;
- 6. Suitable for any dyeing and finishing process.

- [Application]
- Used in cotton, blended, wool, towels and other fabric
- 1 pad method: 2-3 g/L, temperature 30 °C, second dip two rolling or a dip a rolling.
- 2.Dipping method: 0.3-0.8% (O.W.F), bath ratio 1-15, temperature and fifty °C, 15 to 30 minutes
- The chemical material method
- This smoothing agent is a high grade product, when using, should first dilution, room temperature hydration material, it is suggested that dilution ratio according to the ointment: water = about this change material. First join weighing good ointment HT888, start the agitator, and gradually partial water; Stir in the state, began to slowly adding water, to ensure that every time before the water,
- Liquid in the kettle has mixing uniformity. After the water to add, stirring ten minutes or so, can get slurry liquid, stop stirring. Set aside.
- [Packaging and storage]
- 125 kg/polyethylene drum, in a cool and dry place, seal save; Shelf life 6 months.
- Note: this product is high concentrated state choose open diluted multiples of: 4 ~ 6





#### Hydrophilicity Silicone Softeners for Textiles A220

[Brief information]

-- A quaternary modified softening agent with terpolymer structure and excellent hydrophilicity.

-- Hydrophilicity silicone is very stable in acid and weak alkali condition at normal temperature while it also has excellent stability at 100 degree below pH 8.

-- It also has excellent stability at 100 °C high temperature, special for overflow dyeing machine. Soft technology become more convenient, no need of vat to vat, so it can save time and cost.

-- Confers soft, silky and bulky hand feels to fabrics, as well as hydrophilicity while absorbency is 2 – 3 seconds. Meanwhile it can replace of flake and original hydrophilic silicone oil.

#### [General properties]

- -- Appearance: pale transparent liquid -- pH: 5 8 (1% solution at 20 degree)
- -- Ionicity: weakly cationic -- Solubility: easily soluble in water
- [Properties and fields of application]
- -- Resistant to high temperature, mild alkali at normal temperature, strong electrolytes and shearing stable without silicone spots.
- -- Natural soft, smooth and non-greasy hand feels.
- -- Excellent hydrophilicity that exactly solves the conflict of hand feelings, hydrophilicity and washing resistance.
- -- Suitable for various process and equipment with high flexibility.
- -- Suitable for various fibres, such cotton, T/C, CVC, etc, especially best performance to cotton.
- -- Excellent hydrophilicity that allows direct shade repair and avoids re-pollution during the repair.
- -- As the same price with flakes, but better than flake, it can achieve the effect of flake and original hydrophilic silicone oil.







### Comprehensive Analysis of Softening Agent for Textile Auxiliaries Chemicals



Solice in a solution event is a material which can be adhered to the surface of the fiber and make the fiber become soft so that to improve the sense of feel and touch. Softening agent can not only make the textile soft but also has the effects of antistatic, anti-pollution, improving smoothness, tearing strength and improving sewing. HT FINE will have a test and analysis towards all kinds of textile softening agents to have a comprehensive conclusion for you!

The requirements of textile softening agents

They should have excellent softness, smoothness and bulkiness.

They should have a small effect to the whiteness and color fastness of textile.

They should have a great stability when they are under varieties of deep—processing conditions(impregnation, dip rolling, temperature, PH, etc.)

Soft finishing of fiber or fabric should not be in heat discoloration, and the storage should not produce the changing of color, odor, feel.

If the softener is the emulsion, the stability of its emulsion should not be broken.

When they have contact with skin, they will not do harm to it, which should meet the requirement of the environment.

According to different handling requirements: they should possess the properties of water absorption, water repellency and antistatic.

How to distinguish the softening agent?

Softener is one of the most popular auxiliaries in dyeing and finishing. According to its chemical structure, it is basically two kinds of long chain fatty group or macromolecule polymer.

The long chain fatty race is not only of many varieties but also of a large amount. These softeners can be classified into anionic, cationic, nonionic, and zwitterionic is based on their ionic properties.

Besides, for natural oils and waxes, softeners are natural lubricants, and can also be used as a separate class. Polymer softener mainly has polyethylene and silicone. The varieties of polyethylene softener are single, and the dosage is less. The main used one is the silicone softener.

The molecular structure of polysiloxane alone can reduce the static and dynamic friction coefficient between fibers as well as reduce the surface tension of fibers. It is an ideal material for softening finishing agents of textiles.

Silicone softeners, especially amino modified silicone softeners, are the fastest growing soft one in recent years.



According to customer's requirement, we can provide different packages. Sush as 50kg, 125kg or 200kg for liquid.



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#### **THANKS FOR WATCHING**

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