

# POWSIL™-30501

*PU modified Silicone Softener*

## INTRODUCTION

POWSIL-30501 is a polyurethane-modified silicone oil emulsion created through a chemical reaction, combining the properties of both polyurethane and silicone oil.

POWSIL-30501 is a self-crosslinking, environmentally friendly silicone softener, it forms an elastomeric film on fiber surfaces, improving fabric resilience, wet rubbing fastness, and anti-pilling.

POWSIL-30501 offers excellent adsorption and affinity for various fibers, enhancing fabric texture with a smooth, silky, and high-fluffy feel.

Additionally, the inclusion of polyurethane groups reduces slippage and provides better fabric fit, while ensuring compatibility with most additives.

## BENEFITS

- Forms an elastomeric film as soon as the treated fabric is cured at > 150°C, No catalyst is needed;
- Outstandingly durable smoothness along with soft & slick hand-feel;
- Provides stretch-recovery and bouncy hand feel to all type of fabrics;
- Improve wet and dry rubbing fastness on fabrics;
- Minimizes wrinkle on fabrics;
- Excellent affinity with all types of textile;
- Durable softness to laundering;
- AMEO free, NP/OP free - Environmental friendly;
- Readily diluted to any grade without additional emulsifies.

## TYPICAL PHYSICAL PROPERTIES

Physical Form	Liquid
Appearance	Colorless to yellowish transparent
Solid Contents (wt%)	30~33
Viscosity (25°C, cP)	<100
pH (1% aqueous)	4.0~5.5
Ionic	Weak cationic
Diluents	Water

# POWSIL™-30501

*PU modified Silicone Softener*

## APPLICATION

POWSIL-30501 can apply in any type of fabrics requiring excellent smoothness and bouncy hand-feel and any type of fabric requiring improvement of elongation and stretch recovery.

POWSIL-30501 can be used in Mercerized cotton knits and Wool / wool blended knits and worsted wool woven, which improves softness in wrinkle free finish.

POWSIL-30501 can be used as a type of fiber and thread lubricants and hand-feel agent for PU leathers.

POWSIL-30501 is ready-to-use, thus it can be applied when received. However, because of its high solid content, it can be pre-diluted prior to adding to the textile finish bath.

The optimum dosage depends on the required softness, type of fabrics and fabric finish conditions, but following conditions are commonly recommended.

### 1. Pad-dry-cure process

Dosage as received	10 ~ 50 g/l
pH	6.0-8.0
Temperature	ambient
Pick-up	65 ~ 100 %
Drying & Curing	>150 °C
Drying time	1-3 min

### 2. Exhaustion process

Dosage as received	1.0 ~ 5.0 % (OWF)
Liquor ratio	1/10 ~ 1/20
pH	6.0-8.0
Temperature	20 ~ 40 °C
Time	15 ~ 30 min
Drying	150 ~ 180 °C
Drying time	103 min

### Cure Properties

Upon drying and curing of fabric that POWSIL-30501 is applied, the product will cure to an elastomeric film.

### Precaution by using hard water dilution

Silicone emulsions are generally stable in hard water. However, should the water supply

# POWSIL™-30501

## *PU modified Silicone Softener*

be of 200ppm hardness or higher, softened water or boiler condensate is recommended as a diluent.

Dilution of the emulsion with water may result in the need for additional bacteriostat/fungistat to counteract possible microbial activity. It is recommended that each user evaluate the diluted emulsion before putting it into use. Depending on the specific applications and dilution level, it may be necessary to use additional bacteriostat/fungistat in the diluted product.

Silicone emulsions are shipped with sufficient biocide for preservation. Shipments of emulsions with sufficient biocide for all dilution levels in all applications are not feasible. Therefore, it is recommended that each user evaluate whether it is necessary to add additional biocide to diluted products.

### **Precausin by reactive fluid emulsions**

POWSIL-30501 is a reactive PU modified silicone emulsion that may not be compatible with certain materials. It may be deactivated by acidic materials and may cause the gelation of materials containing hydroxyl (-OH) groups. Other materials such as anionics, lower alcohols, salts, dyestuffs etc., may break the silicone emulsion. It is recommended that any mixture of reactive emulsions with other materials be thoroughly checked before it is put to factory production.

## PACKING AND STORAGE

To ensure that the product quality is maintained, the container should be tightly sealed when not in use. It should be stored at normal room temperature, preventing prolonged exposure to extreme heat and cold conditions, which may cause product separation. POWSIL-30501 tends to be sediment on bottom during storage period. If the product is separated, stir the contents to homogeneous. If the product is frozen, thaw it at warm condition and stir after thawed.

POWSIL-30501 is packaged in net weight 190Kg plastic drum. POWSIL-30501 has a shelf life of 9 months under room temperature and hermetic condition without exposure to sunlight.

## NOTES

All information in the leaflet is based on our present knowledge and experience. We reserve the right to make any changes according to technological progress or further developments. Performance of the product described herein should be verified by testing.

# POWSIL™-30501

## *PU modified Silicone Softener*

We specifically disclaim any other express or implied warranty of fitness for a particular purpose or merchantability. We disclaim liability for any incidental or consequential damages.

May 2024 | [Technical Data Sheet](#) | Edition JW

Please send all technical questions concerning quality and product safety to: [support@SiSiB.com](mailto:support@SiSiB.com).