

Amino Functional Silicone Fluid

TSF4703

PRODUCT DESCRIPTION

TSF4703 is an amino functional silicone fluid developed for textile softener use. It can be easily emulsified to stable micro emulsions which give durable softness and smoothness to cotton, blending cotton woven fabrics and knitted products.

KEY PERFORMANCE PROPERTIES:

- ◆ Good affinity to fabrics
- ◆ Easy to formulate
- ◆ Imparts durable softness to many fabrics

APPLICATIONS

- ◆ It gives excellent softness and slipperiness to a variety of fabrics.

TYPICAL PRODUCT DATA

Property	Value
Silicone content, %	100
Viscosity, Pa·s {cP} 25°C(77°F)	1.0 {1000}
Specific gravity 25°C(77°F)	0.98
Appearance	Light yellow, translucent
Refractive index (n_D^{25})	1.408
Equivalent weight*	1600
Amine equivalent (meq / g)**	0.64

* grams of TSF4703 required to neutralize one equivalent of HCl

** milliequivalents of base/gram

EMULSIFICATION INSTRUCTIONS

15% Silicone Microemulsion (22.5% solid)

- Blend the following ingredients using an overhead stirrer.

15.0 parts	TSF4703
7.5 parts	DOBANOX 23E (LION)*
7.5 parts	Ethylene glycol mono butyl ether
	* $C_{12-13}H_{25-27}O(CH_2CH_2O)_5H$ (HLB9.9)
- Slowly add 69.7 parts of ion exchanged water (part two ion exchanged water) with good agitation.
Note: if desired, biocides may be added in this step.
- Slowly add 0.3 parts of acetic acid. Agitate well for 5-10 minutes to insure homogeneity.
- Filter the emulsion to remove any dirt or undissolved gel particles. Fine filtration is not required.

“ATTENTIONS: NOT FOR INJECTION INTO HUMANS”

TSF4703

AN EVALUATION RESULT

◆ Treating bath	:2% solid of above emulsion
◆ Test fabrics	:Cotton woven,
◆ Treating condition	:Padding (pick up 100% for Cotton) Drying (130°C 3min)
◆ Evaluation of softness	:Pure Bending Tester (KES-FB2 : KATO TECH Co., LTD) Calculation value* = (B+2HB)/2 B=(Bwarp+Bweft)/2 2HB=(2HBwarp+2HBweft)/2 B : Bending rigidity (gf.cm ² /cm) 2HB : Hysteresis of B (gf.cm ² /cm)
◆ Evaluation of smoothness	:Surface Tester (KES-FB4 : KATO TECH Co., LTD) MID** = average of kinetic friction co-efficient MMD***= variation of MIU
◆ Yellowing	:Delta b value measured after 175°C, 30min by color differential tester based on untreated fabric color

Cotton woven	Handling value	Calculation value *	MID**	MMD***	Delta b
TSF4703	slippery	0.043	0.08	0.012	+1.6
Untreated	rough	0.070	0.14	0.015	0

HANDLING AND SAFETY

- ◆ Wear eye protection, protective gloves and mask at all times when working with this product.
- ◆ Maintain adequate ventilation in the work area at all times.

STORAGE

- ◆ Store in a cool, dry place out of direct sunlight, with container tightly closed.
- ◆ Keep out of the reach of the children.

PACKAGING

1kg can available in cases of 10 cans
15kg/pail, 200kg/drum

TSF4703E
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