

# HISOFT YK

(Cold water soluble Softening, Lubricating Agent)

## INTRODUCTION

**HISOFT YK** has excellent softening and lubricating effect for synthetic and their blended fibers. It is especially soluble in cold water.

It gives a soft and smooth touch to the fibers.

Moreover, yarn cutting, fly and pilling don't occur in the knitting process.

## PROPERTIES

Appearance	Light yellow Bead
Ionic	Cationic
pH (1 % aq. soln.)	4 ~ 5
Solubility	Easily soluble in cold water
Solid content (Kett)	98 ± 1 %

## CHARACTERISTICS

Easy to make dilution because **HISOFT YK** has good solubility in cold water.

Imparts a excellent softness, smooth and fall hand to fabrics

Does not affect on color of treated fabrics

Can be used in all processes of softening and resin finishing of knitted fabrics

## USAGE

Preparation of stock solution : Add 10kg of **HISOFT YK** into 90kg of cold water with continuous stirring.

Generally 2 ~ 3 % (o.w.f) of **HISOFT YK** is enough to give a softness.

## PACKING CONDITION

Net 25kg packed in Paper Bag

# HISOFT YN

(Non-ionic Softener)

## INTRODUCTION

**HISOFT YN** has a good touch for all textiles.  
It is soluble in warm water(around 65°C).  
It gives a soft and smooth touch to the fibers.  
And this nonion can be used with other auxiliaries.

## PROPERTIES

	Data
<b>Appearance</b>	Yellowish flake
<b>Ionic</b>	Nonion
<b>PH (1 % aq. soln.)</b>	8.0 - 10.0
<b>Solubility</b>	Soluble in warm water
<b>Composition</b>	HighGrade Fatty Acid & PolyAlcohol Ester Derivatives

## CHARACTERISTICS

**HISOFT YN** has good effect of finishing for softening & dry feeling cotton, velour type cotton and fabrics.  
Easily soluble in warm water(around 65°C).  
Excellent compatibility with other auxiliaries and dyestuff as nonionic character.  
Especially, it has a strong point of almost non-yellowing to white fabric.  
It has a wonderful touch like cationic softener to all fabrics.

## USAGE

Generally 2 ~ 3% o.w.f of **HISOFT YN** is enough to give a softness.

## PACKING CONDITION

Net 20kg packed in Paper Bag

## ESTER QUATERNARY

# HISOFT TH-90

*quaternary liquid softener*

### INTRODUCTION

**HISOFT TH-90** is a Esterquaternary ammonium salt, cationic surfactant which are specially well adapted to the formulation of fabric softeners, textile auxiliaries, various cleaners and treatment products for minerals.

### SPECIFICATIONS

Component	Bis(acyloxyethyl) hydroxyethyl Methyl Ammonium Methosulphate
Appearance (at 25°C)	Semi solid paste
Appearance (at 45°C)	Light yellow liquid
Color (Gardner)	3 Max.
pH (5%, 50% alcoholic soln)	2.9 – 3.5
Ionic	Cationic
Solubility	Soluble in water at 55 –60 °C
Solvent (IPA)	Mixed Alcohol and Glycol about 15 wt%

### FORMULATIONS

- Water : 75%
- HISOFT TH-90 : 24.7%
- Lauryl Alcohol + E.O 20 : 0.3%
- MgCl<sub>2</sub> 6H<sub>2</sub>O : 0.4%

1. Water can be added at 55 – 60 °C
2. HISOFT TH-90 and LA+ E.O. 20 are added at 50 – 55 °C, and stirred for 30 – 60 min.
3. Cool to 30 °C and add the magnesium chloride, stirring until it is completely dissolved.

### APPLICATIONS

Depending on the objective textiles and the purpose of its use, it is generally applied as below.

Dipping Method	2 – 5% ( o.w.f )
Padding Method	1 – 2 % soln

### ***CHARACTERISTICS***

1. Good antistatic properties
2. Good softening, not have greasy feeling.
3. Good rewetting capacity, provide a lubricating effect.
4. An ability to produce high active concentration with low viscosity.
5. No effect on fabric colors
6. Excellent biodegradability.

### ***PRECAUTION***

- HISOFT TH-90 drums should be stored at a dry and cool area, away from any source of ignition
- HISOFT TH-90 may have partially solidified as a result of cold outside temperature,  
drums should be heated and the product stirred until complete homogenization  
( Drums can be heated in a water-bath, in a hot room, or with a heating belt )

### ***PACKING CONDITION***

Net 190kg packed in PE drum

- **Ref. : Highest Concentrated Type (80%) :**
- **It is generally used after dilution to 1/3~1/4 just with water.**

## HISOFT NY-80N

### [ NON-YELLOWING SILICONE SOFTENER FOR VARIOUS TEXTILES ]

HISOFT NY-80N is a newly developed silicone softening agent for synthetics natural textiles, and their blends.

It has no problems such as color-changing, yellowing etc., having excellent silicone softness as amino modified silicone softener. Furthermore it has no gumming-up trouble.

When it is especially used with HISOFT NY series, it can be obtained top-quality products of Super elastic & soft finishing, of Wrinkle free finishing, Water-repellent finishing, and Lustering & softening finishing etc.

#### GENERAL PROPERTIES

Appearance	Transparent liquid
Ionicity	Weak cation
Activ (%)	80 ± 2
pH (1% sol'n)	5.5 ± 1.0

#### CHARACTERISTICS

1. It can be used to the finishing of white goods thanks to its non-yellowing type.
2. It has no change the color of finished goods.
3. It has no problem of gumming-up both padding treatment and bath treatment.
4. It has no trouble of bleeding in polyester dyeing.
5. It is excellent to washing fastness, and imparts soft touch with elasticity.

#### AMOUNT USED

Depending on the kinds of textiles and quality required, amount used is generally applied as below.

1. Bath Treatment : 1 ~1.5% (o.w.f)
2. Padding Treatment : 10g/l to 30-40g/l .

#### CAUTION

Before used, It is required to pre-test for compatibility with other finishing agents.

#### STORAGE STABILITY

Stable for above 12 months in closed containers at room temperature.

Not to be stored at temperatures below freezing.

#### PACKING UNIT

125kgs PE/Drum

# ES-380

[ Polyisocyanate type extender ]

ES-380 is newly developed as polyisocyanate type extender for water repellent agent.

It gives lasting repellence effects to the fabrics when it is used together with fluorine water repellent agents.

Also, it doesn't have any yellowish to the fabric.

## < PROPERTIES >

Appearance	Milky white liquid
pH(1% sol'n)	7.0 ± 1.0
Ionicity	Nonion
Active Contents (%)	38 ± 1
Type	Polyisocyanate type
Dissociation Temp.	120 °C ≤
Yellowish	No Yellowing
Application	Extender of fluorine water repellent agent, PET Tire etc

## < USAGE >

1. It has much better performance after Curing.  
( The time means curing time after pre-dry )

120 °C 3 minutes (minimum)

150 °C 1-3 minutes

170 °C 1-2 minutes

2. Recommended pH range in Padding is pH 5-6.5, pH can be adjusted with Sodium Bicarbonate.
4. It can be applied on white fabrics due to no yellowish.
5. Don't storage ES-380 above 40 °C due to thermal reactivity resin for a long..

< PACKAGE > 25kgs PE/Can

# < Repellent Test >

## 1. Recipe

No.	1	2	3	4	5	6	Blank
<b>Chemicals</b>							
<b>Water Repellent Agent ( Active 30%. ) g/l</b>	<b>27</b>	<b>20</b>	<b>17</b>	<b>14</b>	<b>20</b>	<b>17</b>	
<b>ES-380 g/l</b>		<b>5</b>	<b>4.2</b>	<b>3.5</b>			
<b>Repellency</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>90+</b>	

**Material : Cotton Woven 40'S (133 X 72)**

## 2. Test Condition :

**Pad ---> Dry ---> Curing**

**1dip-1nip 120°C X 2min 170°C X 1min**

# ESPOL PU-200

**ESPOL-PU 200 is Water Soluble Urethane Polymer and it endows excellent Soft, Silky Touch together with wetting power on Cotton, PET, Nylon, Rayon & it's blended.**

## < Properties >

Appearance	Light yellow~Colorless clear liquid
pH / Actives	6.0±1.0 / 80%
Ionic	Weak Cation
Soluble	Easily soluble in water
Stable	1 year at room temp.

1. It is Eco-Friendly with APEO and Formaline Free Type.
2. It endows excellent Softness and smooth touch to various fabrics.
3. It doesn't have Scum, Gum-up etc.
4. It imparts excellent antiseptic effects with good wetting power.
5. It doesn't have Yellowing.
6. It doesn't have ending problems due to excellent penetrating effect.
7. It doesn't need any catalyst.
8. It endows good drape, soft handle & silky touch in using combination with Amino silicone softner.

## < Usage >

Usage can be different with application, methods.

Generally, on case of 30% active, 1-4 % (o.w.f) has been recommended.

- (1) Exhaustion Method : 1~4 % (o.w.f)
- (2) Padding Method : 10~30 g/l

## < RECIPE >



## 1.SOFT Elastic Treatment :

PU-200	30~35%	
Modified Methoxylated Aminosilicone Softener(Oil:13~15%)		30~40%
Distilled Water	40~25%	

## 2. Wetting power & Silky Touch Treatment :

PU-200	20~25%	
Modified Methylated Aminosilicone Softener(Oil:13~15%)		12~15%
Distilled Water	68~60%	

### < Caution >

1. It is to be stored at temperature between 5°C ~ 30°C and direct sunlight has to be avoided at an airtight container.
2. In combined use with other chemicals, compatibility and emulsion stability may be affected, and therefore a preliminary test is recommended.

### < Package >

125kgs PE/Drum

# ESPOL NP-10

## PHYSICAL PROPERTIES

Properties	Test Method	Unit	NP-10
Appearance at 25 °C	Naked Eye		Clear Liquid
Color	ASTM D 1209	APHA	30 max.
Hydroxyl Value	ASTM D 4252	mgKOH/g	84~88
Water	ASTM D 1744	wt%	0.1 max
pH	ISO4316		6~7
HLB	-	Cal	13.3
Cloud Point	-	1% aq.sol	63
Free EO	HPC's	ppm	5 max.
Free PEG	-	wt %	1 max.
Density at 25 °C	ASTM D4052	g/cm <sup>3</sup>	1.06
Molecular Weight	-	Cal.	660
Viscosity at 25 °C	ASTM D 2196	mPa.s	280
Pour Point	ASTM D97	°C	7

The figures indicated on the table are standard values.

## APPLICATIONS

- ▶ Detergent
- ▶ Wetting agent
- ▶ Emulsifier

## Polyethylene glycol

# ESPOL PEG-400

### PHYSICAL PROPERTIES

Properties	Test Method	Unit	PEG-400
Appearance at 25 °C	Naked Eye		Clear Liquid
Molecular Weight	Cal.		380~420
Color	ASTM D 1209	APHA	10 max.
Hydroxyl Value	ASTM D 4252	mgKOH/g	267~295
Water	ASTM D 1744	wt%	0.1max
pH	ISO4316		5~7
Dioxane	HPC's	ppm	1max
Free EO	HPC's	ppm	5 max.
Density at 25 °C	ASTM D4052-91	g/cm <sup>3</sup>	1.12
Viscosity at 25 °C	ASTM D 2196	mPa.s	90
Pour Point	ASTM D97-87	°C	5
Ash	ASTM D 482-91	ppm	500 max.

The figures indicated on the table are standard values.

### APPLICATIONS

- ▶ Intermediate for organic synthesis
- ▶ Anti-static agent
- ▶ Emollient
- ▶ Humectant

# ESPOL TDE - 7

## PHYSICAL PROPERTIES

Properties	Test Method	Unit	TDE - 7
Appearance at 25 °C	Naked Eye		Liquid
Color	ASTM D 1209	APHA	30 max.
Hydroxyl Value	ASTM D 4252	mgKOH/g	131~136
Water	ASTM D 1744	wt%	0.1 max
pH	ISO4316		6~7

The figures indicated on the table are standard values.

## APPLICATIONS

- ▶ Intermediate for ionic surfactant
- ▶ Wetting agent
- ▶ Emulsifier

# **ESPOL CON-70A**

## **(Emulsifiers for CORNING & SPINNING OILS )**

ESPOL CON-70A is excellent emulsifier for Corning & Spinning Oil.

Especially it is suitable to base oil of P-20/S-20 with good stability.

It contains High grade Fatty Alcohol & Fatty Amine Surfactants, Anti-static agent and Rubbing Fastness Agent with multi-functional.

It endows good antistatic & rubbing fastness effect together with long working time.

### **GENERAL PROPERTIES**

Appearance	Light Yellow Transparent Liquid
Composition	Fatty Amine Surfactants, Antistatic Agent and Rubbing fastness agent
pH (5% sol'n)	3.5 ~ 5.5
Stability	Good stability in emulsion

### **CHARACTERISTICS**

1. It doesn't need any additives and can be compatible with base oil at room temperature.
2. It is good emulsion stability and gives good elastic and fastness in process.  
It can easily remove and no residue to the fabric in washing.
3. It endows excellent anti-static effect and rubbing fastness effect for synthetic fabrics.  
So, it doesn't have any cutting or twist trouble.
4. It has good color yield and no yellowing to the fabric.

### **USAGE :**

It up to application, treatment methods etc.

In general, it is recommended 8-12% according to base oil.

### **PACKAGE :**

200 Kgs Drum.