

# **8 APÉNDICES**

# APÉNDICE 1

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## FICHAS TÉCNICAS COLORANTES FORON



### Foron® Yellow RD-4GRL

Disperse dyestuff for the dyeing of PES and PES/CEL blends

#### 1. Scope of application:

**Foron Yellow RD-4GRL** is intended as disperse dyestuff for the dyeing of PES and PES/CEL as well as PES/PUE blends in the exhaust process. It can be applied for the dyeing of PES/Wo blends and CT as well. For CA and PAN articles the dyestuff can be applied only in light shades. The Foron RD dyestuffs are an ideal standard range for the piece dyer due to their rapid dyeing properties (RD = Rapid Dyeing and Reliable Dyeing).

**Foron Yellow RD-4GRL** is applied mainly as a ternary combination element. The recommended shading and combination elements are especially **Foron Red RD-GL 200**, **Foron Rubine RD-GFL 200** and **Foron Dark Blue RD-2RN 300**. **Foron Yellow RD-4GRL** is combined preferably with **Foron Brilliant Yellow S-6GL** and **Foron Brilliant Blue S-BG 200** to achieve full yellow and green shades.

#### 2. Properties:

- Economical, good dyeing disperse yellow dyestuff
- very high build-up with good bath exhaustion
- high speed of dyeing
- stable to hydrolysis at 130 °C in the pH range of 4 to 6
- optimum range of fixation in the thermosol process: 195 – 215 °C
- fixation of prints with superheated steam: not recommended
- fixation of prints with pressure steam: well suited
- the good stability to sterilisation conditions permits the application for hospital garments
- **Foron Yellow RD-4GRL** should not be combined with **Foron Brilliant Red RD-BR** or with **Foron Brilliant Red E-2BL 200**
- well suited for low temperature dyeing with carrier

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## Foron Yellow RD-4GRL

Color	% Dye	h	c	L*
1/9 Standard Depth Tersuisse 9046	0.04	96.9	54.5	90.38
1/3 Standard Depth Tersuisse 9046	0.13	93.6	77.2	88.64
1/1 Standard Depth Tersuisse 9046	0.34	90.9	93.94	86.9

Light Fastness	1/9 SD	1/3 SD	1/1 SD	3x1/1 SD
Light fastness BT3-GS4 Setila	4.8	4.7	4.8	4.9
Light fastness BT6-GS3.5 Setila	3.6	4.2	4.6	4.6
Light fastness BT3-GS4 Tersuisse 9046	4.8	4.9	4.9	5.0
Light fastness BT6-GS3.5 Tersuisse 9046	4.2	4.4	4.6	4.8

Dry Heat	1/1 180°C	3x1/1 180°C	1/1 210°C	3x1/1 210°C
Dry heat ISO P01 Change of shade	4.6	4.9	4.3	4.5
Dry heat ISO P01 Staining on PES	3.9	2.9	2.2	1.3

Shade Stability	pH 4	pH 6	pH 9	pH 10
Strength Stability	100	100	91	27
Chroma Stability	2.2 T	0.8 T	0.1	0.8 T
Hue Stability	0.9 GR	1.1 GR	0	0.7 GR

Wool Reserve	PES 50%	WO 50%	Wo treated
Wool Reserve 106 °C Dilatin NAN	51.5	2.0	4.1
Wool Reserve 106 °C Dilatin POE	46.5	1.8	2.5
Wool Reserve 120 °C Dilatin NAN	63.4	2.3	2.7
Wool Reserve 120 °C Dilatin POE	55.9	2.1	2.6

Suitability for Carrier Dyeing	% Strength	Chroma	Hue
Carrier 106 °C Dilatin NAN	75.2	1.2 T	1.8 R
Carrier 106 °C Dilatin POE	76.8	2.4 T	0.9 R
Carrier 120 °C Dilatin NAN	92.7	2.5 T	0.7 R
Carrier 120 °C Dilatin POE	90.4	2.2 T	0.2 GR

Cotton Reserve	Rinsed	Soaped	Red Clear
Cotton reserve by HT	4.6	4.8	4.9

Exhaustion Behavior	Rating
Exhaustion behaviour	A 2
Covering of temperature differences	3.4
Covering of draft differences	3.2
Migration in %	49

## Foron Yellow RD-4GRL

Wash 60°C ISO 105/C06 C1S 1/1 SD	CTA	CO	PA 6.6	PES	PAN	CV
Setila Wash C1S 1/1 SD	4.9	4.9	4.0	4.8	4.9	4.9
Tersuisse Wash C1S 1/1 SD	4.6	5.0	4.4	4.9	4.9	4.7
PES/CO 67/33 Wash C1S 1/1 SD	4.8	4.9	3.8	4.9	4.9	4.8

  

Wash 60°C ISO 105/C06 C2S 1/1 SD	CTA	CO	PA 6.6	PES	PAN	CV
Setila Wash C2S 1/1 SD	4.9	4.9	4.7	4.9	4.9	4.9
Tersuisse Wash C2S 1/1 SD	4.6	5.0	4.8	5.0	4.9	4.9
PES/CO 67/33 Wash C2S 1/1 SD	4.7	5.0	4.7	4.9	4.9	5.0

  

Wash 120 °F AATCC 2A 1/1 SD	CA	CO	PA 6.6	PES	PAN	Wo
Setila AATCC 2A 1/1 SD	4.3	4.8	4.8	4.7	4.8	4.6
Tersuisse AATCC 2A 1/1 SD	4.7	4.8	4.9	4.8	4.9	4.4
PES/CO 67/33 AATCC 2A 1/1 SD	4.3	4.8	4.7	4.9	4.9	4.6

  

Wash 60°C ISO 105/C06 C1S 3x1/1 SD	CTA	CO	PA 6.6	PES	PAN	CV
Setila Wash C1S 3x1/1SD	4.6	4.9	2.8	4.7	4.9	4.9
Tersuisse Wash C1S 3x1/1SD	4.4	4.9	3.7	4.9	4.9	4.7
PES/CO 67/33 Wash C1S 3x1/1SD	4.5	4.9	2.8	4.7	4.8	4.7

  

Wash 60°C ISO 105/C06 C2S 3x1/1 SD	CTA	CO	PA 6.6	PES	PAN	CV
Setila Wash C2S 3x1/1SD	4.8	4.9	4.2	4.8	4.9	4.9
Tersuisse Wash C2S 3x1/1SD	4.6	5.0	4.7	4.9	4.9	5.0
PES/CO 67/33 Wash C2S 3x1/1SD	4.7	5.0	4.3	4.9	4.9	4.9

  

Wash 120 °F AATCC 2A 3x1/1 SD	CA	CO	PA 6.6	PES	PAN	Wo
Setila AATCC 2A 3x1/1SD	3.4	4.9	4.2	4.7	4.9	4.4
Tersuisse AATCC 2A 3x1/1SD	4.3	4.8	4.7	4.8	4.8	4.4
PES/CO 67/33 AATCC 2A 3x1/1SD	3.2	4.8	3.9	4.6	4.8	4.3

  

Wash 50°C ISO 105/C06 B2S 1/1 SD	CA	CO	PA 6.6	PES	PAN	Wo
PES/Wo Wash B2S 1/1 SD	4.9	4.8	4.8	4.8	4.8	4.6

  

Persp Alkaline ISO 105/E04 PES/CO	CA	CO	PA 6.6	PES	PAN	Wo
Perspiration Alkaline 1/1 SD	4.5	4.7	4.7	4.8	4.8	4.5
Perspiration Alkaline 3x1/1 SD	3.6	4.3	3.9	4.6	4.7	4.1

  

Dry Cleaning	Not	Postse				
Dry Cleaning Test ISO D01	4.5	4.5				



## Foron® Rubine RD-GFL 200

Disperse dyestuff for the dyeing of PES and PES/CEL blends

### 1. Scope of application:

**Foron Rubine RD-GFL 200** is intended as disperse dyestuff for the dyeing of PES and PES/CEL blends in the exhaust process. It can be applied for the dyeing of CA and CT as well. The Foron RD dyestuffs are an ideal standard range for the piece dyer due to their rapid dyeing properties (RD = Rapid Dyeing and Reliable Dyeing).

**Foron Rubine RD-GFL 200** is suitable mainly as a ternary combination element of the Foron RD range. The recommended shading and combination elements are especially **Foron Yellow RD-4GRL**, **Foron Red RD-GL 200** and **Foron Dark Blue RD-2RN 300**. Due to its excellent build-up properties **Foron Rubine RD-GFL 200** is also recommended as a base element for dark reds in combination with **Foron Brilliant Red RD-BR**.

Since **Foron Rubine RD-GFL 200** exhibits a good stability towards alkaline in dark shades it can be used as base element for dark shades in the alkaline dyeing process with **Lyocol BDN** liquid.

### 2. Properties:

- good dyeing disperse red dyestuff
- very high build-up with good bath exhaustion
- high speed of dyeing
- stable to hydrolysis at 130 °C in the pH range of 4 to 9
- optimum range of fixation in the thermosol process: 195 – 215 °C
- fixation of prints with superheated steam: limited suitability
- fixation of prints with pressure steam: well suited

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## Foron Rubine RD-GFL 200



Color	% Dye	h	c	L*
1/9 Standard Depth Tersuisse 9046	0.044	359.9	41.65	62.21
1/3 Standard Depth Tersuisse 9046	0.15	4.4	50.29	48.88
1/1 Standard Depth Tersuisse 9046	0.42	9.3	52.47	38.5

Light Fastness	1/9 SD	1/3 SD	1/1 SD	3x1/1 SD
Light fastness BT3-GS4 Setila	4.8	4.7	4.9	4.7
Light fastness BT6-GS3.5 Setila	3.4	3.1	3.1	3.4
Light fastness BT3-GS4 Tersuisse 9046	4.7	4.7	4.7	4.8
Light fastness BT6-GS3.5 Tersuisse 9046	3.8	4.1	4.3	4.6

Dry Heat	1/1 180°C	3x1/1 180°C	1/1 210°C	3x1/1 210°C
Dry heat ISO P01 Change of shade	4.7	4.7	4.0	4.0
Dry heat ISO P01 Staining on PES	4.4	3.6	2.5	1.7

Shade Stability	pH 4	pH 6	pH 9	pH 10
Strength Stability	99	100	98	97
Chroma Stability	0	0	0.1	0.7 T
Hue Stability	0	0	0.1	0.9 G

Wool Reserve	PES 50%	WO 50%	Wo treated
Wool Reserve 106 °C Dilatin NAN	59.9	1.0	3.2
Wool Reserve 106 °C Dilatin POE	50.4	1.0	1.9
Wool Reserve 120 °C Dilatin NAN	78.8	1.3	2.6
Wool Reserve 120 °C Dilatin POE	75.5	1.2	2.5

Suitability for Carrier Dyeing	% Strength	Chroma	Hue
Carrier 106 °C Dilatin NAN	82.6	2.1 T	1.8 B
Carrier 106 °C Dilatin POE	78.3	2.8 T	2.4 B
Carrier 120 °C Dilatin NAN	97.7	0.4 T	1.0 B
Carrier 120 °C Dilatin POE	93.5	0.9 T	1.2 B

Cotton Reserve	Rinsed	Soaped	Red Clear
Cotton reserve by HT	3.6	4.6	4.8

Exhaustion Behavior	Rating
Exhaustion behaviour	A 3
Covering of temperature differences	3.4
Covering of draft differences	2.8
Migration in %	62.4

## Foron Rubine RD-GFL 200

Wash 60°C ISO 105/C06 C1S 1/1 SD	CTA	CO	PA 6.6	PES	PAN	CV
Setila Wash C1S 1/1 SD	3.1	4.8	2.1	4.2	4.9	4.8
Tersuisse Wash C1S 1/1 SD	4.1	4.9	3.2	4.7	4.9	4.7
PES/CO 67/33 Wash C1S 1/1 SD	3.3	4.7	2.2	4.1	4.9	4.8

Wash 60°C ISO 105/C06 C2S 1/1 SD	CTA	CO	PA 6.6	PES	PAN	CV
Setila Wash C2S 1/1 SD	3.5	4.8	2.3	4.4	4.9	4.8
Tersuisse Wash C2S 1/1 SD	3.9	4.8	3.3	4.7	5.0	4.9
PES/CO 67/33 Wash C2S 1/1 SD	3.4	4.8	2.3	4.3	4.9	4.8

Wash 120 °F AATCC 2A 1/1 SD	CA	CO	PA 6.6	PES	PAN	Wo
Setila AATCC 2A 1/1 SD	1.9	4.7	2.6	4.1	4.8	4.2
Tersuisse AATCC 2A 1/1 SD	2.7	4.8	3.6	4.7	4.8	4.3
PES/CO 67/33 AATCC 2A 1/1 SD	1.8	4.6	2.5	4.1	4.8	4.0

Wash 60°C ISO 105/C06 C1S 3x1/1 SD	CTA	CO	PA 6.6	PES	PAN	CV
Setila Wash C1S 3x1/1SD	2.0	4.3	1.3	2.8	4.6	4.3
Tersuisse Wash C1S 3x1/1SD	3.2	4.7	2.2	4.3	4.8	4.7
PES/CO 67/33 Wash C1S 3x1/1SD	2.4	4.4	1.5	3.2	4.7	4.5

Wash 60°C ISO 105/C06 C2S 3x1/1 SD	CTA	CO	PA 6.6	PES	PAN	CV
Setila Wash C2S 3x1/1SD	2.1	4.3	1.4	3.2	4.7	4.4
Tersuisse Wash C2S 3x1/1SD	3.1	4.6	2.2	4.2	4.9	4.7
PES/CO 67/33 Wash C2S 3x1/1SD	2.5	4.5	1.6	3.4	4.8	4.5

Wash 120 °F AATCC 2A 3x1/1 SD	CA	CO	PA 6.6	PES	PAN	Wo
Setila AATCC 2A 3x1/1SD	1.1	4.0	1.6	2.8	4.3	2.7
Tersuisse AATCC 2A 3x1/1SD	1.9	4.6	2.5	4.1	4.7	4.0
PES/CO 67/33 AATCC 2A 3x1/1SD	1.3	4.2	1.8	3.0	4.5	3.0

Wash 50°C ISO 105/C06 B2S 1/1 SD	CA	CO	PA 6.6	PES	PAN	Wo
PES/Wo Wash B2S 1/1 SD	2.4	4.7	2.6	4.5	4.8	4.2

Persp Alkaline ISO 105/E04 PES/CO	CA	CO	PA 6.6	PES	PAN	Wo
Perspiration Alkaline 1/1 SD	3.7	4.3	3.4	4.0	4.5	3.9
Perspiration Alkaline 3x1/1 SD	3.1	3.8	2.6	3.3	4.2	3.2

Dry Cleaning	Not	Postse				
Dry Cleaning Test ISO D01	4.5	5.0				



## Foron® Blue RD-GLF

Disperse dyestuff for the dyeing of PES and PES/CEL blends

### 1. Scope of application:

**Foron Blue RD-GLF** is intended as disperse dyestuff for the dyeing of PES and PES/CEL blends in the exhaust process. It can be applied for the dyeing of CT as well. The Foron RD dyestuffs are an ideal standard range for the piece dyer due to their rapid dyeing properties (RD = Rapid Dyeing and Reliable Dyeing). **Foron Blue RD-GLF** is recommended for the yarn dyeing sector as well due to its high sublimation fastness.

**Foron Blue RD-GLF** is suitable mainly as a ternary combination element of the Foron RD range. The recommended shading and combination elements are especially **Foron Yellow-Brown RD-2RS**, **Foron Scarlet RD-FRS 200** and **Foron Rubine RD-BLS**.

Due to a tendency to produce a scittery appearance in the thermosol process **Foron Blue S-BGL 200** should be given preference to **Foron Blue RD-GLF** in that application.

### 2. Properties:

- good dyeing disperse blue dyestuff
- very high build-up with good bath exhaustion
- high speed of dyeing
- stable to hydrolysis at 130 °C in the pH range of 4 to 6
- optimum range of fixation in the thermosol process: 205 – 225 °C
- fixation of prints with superheated steam: suited
- fixation of prints with pressure steam: well suited

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## Foron Blue RD-GLF

Color	% Dye	h	c	L*
1/9 Standard Depth Tersuisse 9046	0.088	259.5	31.18	59.16
1/3 Standard Depth Tersuisse 9046	0.24	265.7	35.4	46.15
1/1 Standard Depth Tersuisse 9046	0.82	35.5	30.47	30.47

Light Fastness	1/9 SD	1/3 SD	1/1 SD	3x1/1 SD
Light fastness BT3-GS4 Setila	4.5	4.6	4.6	4.7
Light fastness BT6-GS3.5 Setila	2.6	2.2	2.1	2.7
Light fastness BT3-GS4 Tersuisse 9046	4.8	4.9	4.8	4.9
Light fastness BT6-GS3.5 Tersuisse 9046	3.1	3.0	3.3	4.0

Dry Heat	1/1 180°C	3x1/1 180°C	1/1 210°C	3x1/1 210°C
Dry heat ISO P01 Change of shade	4.7	4.7	4.1	4.0
Dry heat ISO P01 Staining on PES	4.7	4.2	3.2	2.1

Shade Stability	pH 4	pH 6	pH 9	pH 10
Strength Stability	100	99	76	60
Chroma Stability	0	0.1	3.0 T	4.5 T
Hue Stability	0	0	0.1	1.3 R

Wool Reserve	PES 50%	WO 50%	Wo treated
Wool Reserve 106 °C Dilatin NAN	38.9	1.0	4.3
Wool Reserve 106 °C Dilatin POE	31.1	1.0	1.2
Wool Reserve 120 °C Dilatin NAN	47.4	1.2	1.5
Wool Reserve 120 °C Dilatin POE	50.6	1.2	1.5

Suitability for Carrier Dyeing	% Strength	Chroma	Hue
Carrier 106 °C Dilatin NAN	69.2	1.5 T	0.6 GR
Carrier 106 °C Dilatin POE	52.8	2.4 T	0.8 GR
Carrier 120 °C Dilatin NAN	94.3	0.1	0.2 GR
Carrier 120 °C Dilatin POE	89.2	0.4 T	0.1

Cotton Reserve	Rinsed	Soaped	Red Clear
Cotton reserve by HT	4.0	4.6	4.7

Exhaustion Behavior	Rating
Exhaustion behaviour	C 3
Covering of temperature differences	2.9
Covering of draft differences	1.9
Migration in %	32.7

## Foron Blue RD-GLF

Wash 60°C ISO 105/C06 C1S 1/1 SD	CTA	CO	PA 6.6	PES	PAN	CV
Setila Wash C1S 1/1 SD	4.5	4.6	2.7	3.9	4.8	4.8
Tersuisse Wash C1S 1/1 SD	4.2	4.7	3.9	4.6	4.9	4.7
PES/CO 67/33 Wash C1S 1/1 SD	4.5	4.7	3.0	4.1	4.8	4.7

Wash 60°C ISO 105/C06 C2S 1/1 SD	CTA	CO	PA 6.6	PES	PAN	CV
Setila Wash C2S 1/1 SD	4.7	4.7	3.1	4.3	4.9	4.8
Tersuisse Wash C2S 1/1 SD	4.3	4.8	3.9	4.6	4.9	4.8
PES/CO 67/33 Wash C2S 1/1 SD	4.6	4.7	3.2	4.3	4.9	4.7

Wash 120 °F AATCC 2A 1/1 SD	CA	CO	PA 6.6	PES	PAN	Wo
Setila AATCC 2A 1/1 SD	3.1	4.4	3.0	3.6	4.6	4.3
Tersuisse AATCC 2A 1/1 SD	4.1	4.7	3.9	4.4	4.8	4.3
PES/CO 67/33 AATCC 2A 1/1 SD	2.9	4.4	3.0	3.5	4.7	4.2

Wash 60°C ISO 105/C06 C1S 3x1/1 SD	CTA	CO	PA 6.6	PES	PAN	CV
Setila Wash C1S 3x1/1SD	3.9	4.3	2.1	3.1	4.6	4.5
Tersuisse Wash C1S 3x1/1SD	4.1	4.5	2.6	3.7	4.8	4.6
PES/CO 67/33 Wash C1S 3x1/1SD	4.1	4.3	2.1	3.2	4.7	4.4

Wash 60°C ISO 105/C06 C2S 3x1/1 SD	CTA	CO	PA 6.6	PES	PAN	CV
Setila Wash C2S 3x1/1SD	4.2	4.4	2.3	3.4	4.7	4.6
Tersuisse Wash C2S 3x1/1SD	4.1	4.5	2.9	4.1	4.8	4.7
PES/CO 67/33 Wash C2S 3x1/1SD	4.2	4.3	2.3	3.4	4.7	4.5

Wash 120 °F AATCC 2A 3x1/1 SD	CA	CO	PA 6.6	PES	PAN	Wo
Setila AATCC 2A 3x1/1SD	2.4	4.1	2.4	2.9	4.3	3.6
Tersuisse AATCC 2A 3x1/1SD	2.9	4.4	2.8	3.4	4.6	3.8
PES/CO 67/33 AATCC 2A 3x1/1SD	2.1	3.8	2.1	2.6	4.2	3.1

Wash 50°C ISO 105/C06 B2S 1/1 SD	CA	CO	PA 6.6	PES	PAN	Wo
PES/Wo Wash B2S 1/1 SD	4.7	4.8	4.2	4.7	4.8	4.5

Persp Alkaline ISO 105/E04 PES/CO	CA	CO	PA 6.6	PES	PAN	Wo
Perspiration Alkaline 1/1 SD	4.6	4.8	4.5	4.8	4.9	4.6
Perspiration Alkaline 3x1/1 SD	4.0	4.4	4.1	4.5	4.8	4.3

Dry Cleaning	Not	Postse				
Dry Cleaning Test ISO D01	4.5	5.0				

# FICHAS TÉCNICAS PRODUCTOS AUXILIARES



## Leveling Agent

### Eganal® UNI

#### FUNCTION

*Eganal UNI* is a nonionic textile auxiliary used in the dyeing of polyester yarns, stock, or piece goods under HT conditions. By its specific action *Eganal UNI* promotes level dyeing due to controlled strike rates. By its ability to equalize the dye strike throughout the heating period, a more rapid heating time can be realized. In addition to its leveling function *Eganal UNI* can be used for after clearing of dyed Polyester. Disperse dye on the surface of Polyester will be scavenged by this product and can be rinsed off. This can be of special benefit for dyed Polyesterblends where reductive clearing after dyeing of the second fiber is no option (e.g. Polyester/Cotton blends dyed with Disperse / Reactive systems).

#### FEATURES

##### *Eganal UNI:*

- Reduces the rate of dye strike and promotes dye transfer.
- Prevents deposits of polyester trimer on the substrate.
- Imparts positive dispersing effect on disperse dyes.
- Emulsifies oily substances.
- Scavenges surface bound disperse dyes.
- Reduces staining of disperse dyes on the second substrate of Polyester blends.
- Exhibits minimal foaming (no extra defoaming agent is needed).

#### PHYSICAL AND CHEMICAL PROPERTIES

Chemical description:	Linear Polycondensate
Ionic character:	Nonionic
Appearance:	Slightly turbid, yellow liquid
pH (as is):	5.5 – 6.5
Specific gravity (g/cc):	Approx. 1.03 (68° F)
Compatibility:	Compatible with most ionic and non-ionic compounds
Storage stability:	Good; Temperatures below 32°F may cause freezing of the product. Thaw at room temperature and mix well before using. Stays fully effective

## APPLICATION INFORMATION

*Eganal UNI* is recommended for exhaust applications.

Typically, we recommend the addition of:

**0.5 – 1.5 % *Eganal UNI***

based on weight of goods to the disperse dye bath. The higher concentrations are recommended for lighter shades, while lower concentrations should be used for darker shades. Where dispersion of cyclic trimers is required, higher concentrations should be used.

Examples of dye bath formulations are shown below.

Formulation for HT dyeing:

*Dyeing:*  
Fill at 120°F  
Add:  
0.5 – 1.0 % owg Carbapon® CDN (Sequestering agent)  
0 - 0.5 % owg Remol® LUB (Lubricant)  
0.5 – 1.0 % owg *Eganal UNI*  
adjust with acetic acid to desired pH (4.5 – 5.0)  
run 10 minutes, add  
x.x% disperse dye

Heat 4°F/minute to 265°F. run 30 – 45 minutes.  
Cool 3°F/minute to 170°F

*Post-clear:*  
Add:  
0.5 – 1.0 % owg *Eganal UNI*  
0 - 0.5 % owg Remol LUB (Lubricant)  
Heat 4°F/minute to 190°F (scavenging of surface dye takes place)  
Run 10 minutes  
Cool 3°F/minute to 170°F  
Overflow rinse for 5 minutes.

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**Technical Information**

Imacol MPE liq

**Imacol® MPE Liquid**

A high effective lubricant of a new generation developed for polyester fibres (especially *microfibres*) alone and in blends with other fibres

- reduces both fibre-fibre and fibre-metal friction in all stages of textile processing
- is highly effective over a wide pH and temperature region
- exhibits a good scouring/degreasing effect on winding oils
- does not impair the shade and fastness properties of the dyeings.
- is non-foaming.

**1 Properties**

Appearance	white, slightly viscous dispersion	
Chemical character	aqueous polymer dispersion	
Ionic character	nonionic	
Density at 25°C	ca. 1	
pH	5.5 - 7.5	
Viscosity at 20°C	220 mPa.s (Brookfield)	
Dilutability	dilutable in any proportion by pouring over cold water	
Stability to		
● hard water	very good	with the usual
● acids	very good	amounts in
● alkalis	very good	treatment
● salts	very good	baths
Compatibility	good with nonionic, anionic and cationic products;	
Storage stability	solidifies at temperatures below -5°C but is fully effective again after thawing and stirring up	
Foam formation	none	
Ecotoxicological data	see Safety Data Sheet.	

## 2 Application properties

Imacol MPE Liquid migrates into the fibres; this imparts sliding properties to the yarns in knit and woven fabrics so that fibre-fibre and fibre-metal friction is reduced. It also has a good scouring effect on the winding oils which may remain on the goods after the usual scouring, thus preventing the formation of spots during dyeing. It does not affect the handle or the fastness properties of dyed fabrics.

## 3 Scope of application

Its good compatibility with all kinds of dyes and chemicals permits Imacol MPE Liquid to be applied in all wet treatments where undesired permanent creases may occur, such as during:

- scour boiling and bleaching
- fluorescent brightening
- dyeing and aftertreatment

of piece goods (woven and knit) of polyester fibres and blends with other fibres.

It is particularly suitable for polyester microfibres where the friction phenomena are very important.

## 4 Machines

Thanks to its non-foaming properties Imacol MPE Liquid can be used on all fully and partially flooded pretreatment and dyeing machines, regardless of the liquor ratio.

## 5 Applicable amounts

Add at the beginning of treatment

0.5 - 2 g/l Imacol MPE Liquid

The applicable amount depends on the substrate and machine. As a rule optimum sliding effects are achieved with

1 g/l Imacol MPE Liquid

Before addition the required amount must be diluted with cold water.

It is advisable to add Imacol MPE Liquid at all stages of treatment.