

## Levafix<sup>®</sup> ECO range

Levafix ECO Forest | Levafix ECO Navy | Levafix ECO Black  
Zero p-CA or other regulatory controlled amines for responsible textile production



## Levafix<sup>®</sup> ECO

A new range of reactive dyes based on chemistry which is free of p-CA and other regulatory controlled amines. The new dyes have enhanced fastness properties leading to improved sustainability of the textile end product.

## Levafix ECO Black

A new reactive black which is **not** based on conventional reactive black

- Advantages in wet- and light-fastness
- Superior level of colour constancy
- Good build-up to Deep Black shades

## Levafix ECO Navy

- A new neutral navy with high light-fastness compared to existing reactive navy dyes
- Good perspiration-light fastness and wet-fastness

## Levafix ECO Forest

- Unique homogeneous dark green reactive dye
- Strong build-up to very deep dark green shades
- Superior light-fastness compared to dark green shades based on navy/black/yellow combinations

The shade range of the new Levafix ECO dyes can be extended by the use of additional existing p-CA-free Levafix and Remazol dyes.

### Levafix<sup>®</sup> ECO Forest

2.0%

4.0%

6.0%



Light (ISO 105 B02)	3-4	3-4	4
PLF (ISO 105 B07)	3	4	4-5
Oxid. Washing (ISO 105-C09)	4-5	5	5

### Levafix ECO Navy

2.0%

4.0%

6.0%



Light (ISO 105 B02)	4	4-5	5
PLF (ISO 105 B07)	2-3	3-4	4
Oxid. Washing (ISO 105-C09)	4-5	5	5

### Levafix ECO Black

4.0%

6.0%

8.0%



Light (ISO 105 B02)	3-4	4-5	5
PLF (ISO 105 B07)	4	4-5	4-5
Oxid. Washing (ISO 105-C09)	4-5	5	5

Dyeings on bleached CO knit in LR 10:1, soda ash caustic soda

# Levafix<sup>®</sup> ECO Black

## Product Positioning

- Based on chemistry free of regulated amines
- Neutral black shade
- Good color constancy in different light sources
- Good build-up properties to deep black
- Superior fastness properties compared to conventional reactive black based products
- On-tone staining of adjacent fibres

## Advantages of Levafix ECO Black

- Excellent fastness properties in full black shades
- Very good fastness to multiple oxidative wash (ISO 105 C09)
- ISO 105 C06 C2S wash fastness superior to SuperBlack types
- Good adidas<sup>®</sup> wash fastness 40°C
- Little superior light and perspiration-light fastness (ISO 105-B02 and B07)
- Good chlorinated water fastness (ISO 105-E03 with 20 ppm active chlorine)
- Versatile application in exhaust, Cold Pad Batch and continuous

## Levafix ECO Black econfidence facts

- Free of regulated amines
- Full compliance with Oeko-Tex<sup>®</sup> Standard 100
- Heavy metal free
- Meets all relevant Restricted Substance Lists (RSL)

*Committed to Sustainability*

# Levafix<sup>®</sup> ECO Black

## Superior oxidative fastness and staining properties

ISO 105 C09\* Simulated multiple wash (60°C)

\* Colour fastness to laundering -- Oxidative bleach response using a non-phosphate detergent incorporating a low temperature bleach activator

### Levafix ECO Black

Original

Washed

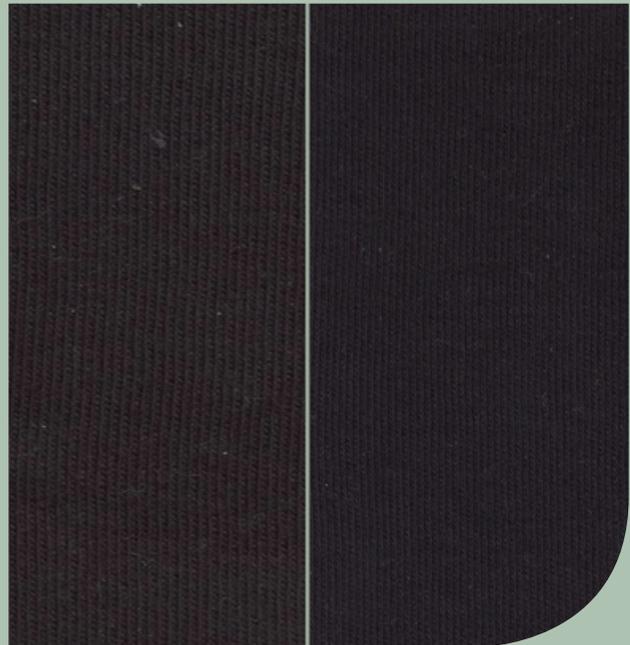


Strength 98%; dH = -0,04

### SuperBlack based on conventional reactive Black

Washed

Original



Strength 95%; dH = 1,5 redder

**Avoids wash-down problems of blacks based on conventional reactive black**

CO
PA 6.6, filament
PA 6.6, staple fiber
CA
CTA
WO
PES
PAN
CV
CO bleached, merc.



**Low or on-tone staining of multifiber strip during dyeing**

8% dyeings on bleached CO knit in LR 10:1, soda ash caustic soda

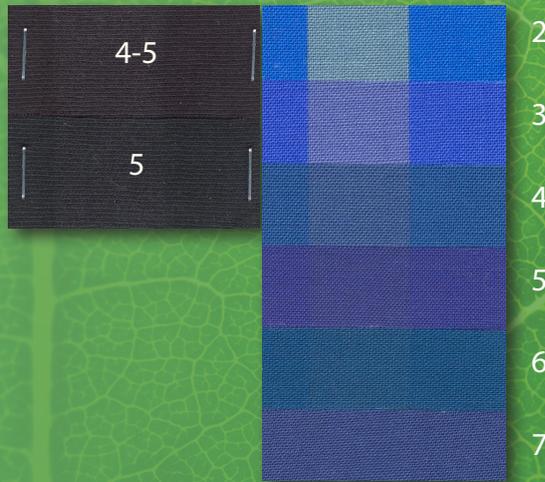
# Levafix<sup>®</sup> ECO Black

## Superior light and wash fastness properties

ISO 105 B02, Xenon Light fastness

SuperBlack based on  
conventional reactive black

Levafix ECO Black



ISO 105 C06 C2S (60°C)

Orange stain ->

SuperBlack based on  
conventional reactive black



8% dyeings on bleached CO knit in LR 10:1, soda ash caustic soda

Committed to Sustainability

# Levafix<sup>®</sup> ECO Black

Better colour constancy than blacks based on conventional reactive black

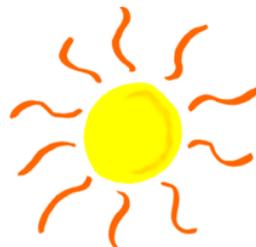
Colour Inconstancy		CMCCON02			
		dE	dL	dC	dH
SuperBlack based on conventional reactive black	D65	0,00	0,00	0,00	0,00
	F11	0,55	-0,32	0,44	0,04
	A10	1,52	-0,12	0,04	1,51
	F02	0,87	-0,48	0,62	0,37
Levafix ECO Black		dE	dL	dC	dH
	D65	0,00	0,00	0,00	0,00
	F11	0,22	-0,09	0,17	-0,10
	A10	0,28	-0,14	-0,04	-0,23
	F02	0,57	-0,14	0,23	0,51

## Explanation of metamerism and color (In)constancy



Primary illuminant





Secondary illuminant

The dye recipe used for the top is more **Colour Constant** than the skirt recipe  
In a secondary illuminant the skirt is **metameric** to the top

8% dyeings on bleached CO knit in LR 10:1, soda ash caustic soda

# Levafix<sup>®</sup> ECO Navy

## Product Positioning

- Based on chemistry free of regulated amines
- Neutral navy shade
- Good colour constancy in different light sources

## Advantages of Levafix ECO Navy

- Excellent light and perspiration-light fastness
- Good wet fastness properties in standard navy shades
- Versatile application in exhaust, Cold Pad Batch and continuous

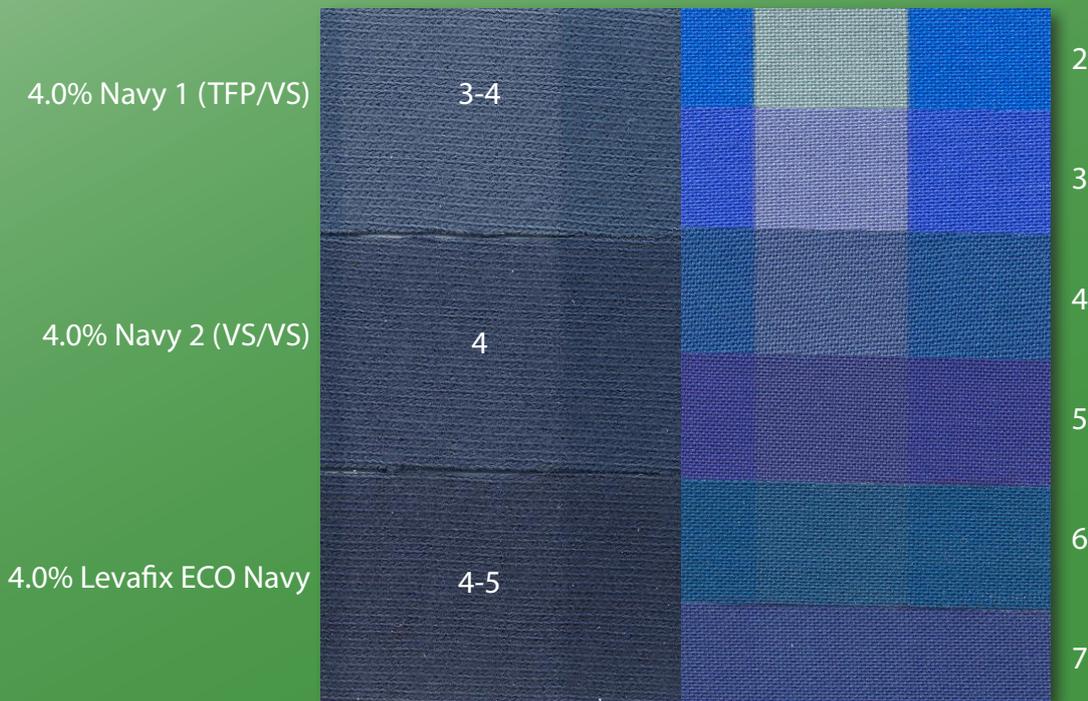
## Levafix ECO Navy econfidence facts

- Free of regulated amines
- Full compliance with Oeko-Tex<sup>®</sup> Standard 100
- Contains copper (within permitted limits)
- Meets all relevant Restricted Substance Lists (RSL)

*Committed to Sustainability*

# Levafix<sup>®</sup> ECO Navy

Excellent light fastness compared to existing reactive navy dyes



## Better colour constancy than existing commercial Navy dyes

	D65 as control	dL	dH	dE
Levafix ECO Navy	F11	-0,6	2,1	2,67
	F02	-0,78	2,49	3,27
	A10	-0,49	0,59	0,77
Commercial Navy 1 (TFP/VS)	F11	-1,24	3,21	3,99
	F02	-1,42	3,57	4,54
	A10	-0,73	2,59	2,71
Commercial Navy 2 (VS/VS)	F11	-1,44	4,85	5,18
	F02	-1,64	5,42	5,83
	A10	-1,07	2,52	2,77

Dyeings for light fastness on bleached CO knit in LR 10:1, soda ash caustic soda

# Levafix<sup>®</sup> ECO Forest

## Product Positioning

- Based on chemistry free of regulated amines
- Bluish dark green shade
- High colour yield and strong build-up
- Better technical performance compared to dark greens based on conventional reactive black
- Good option for shading of reactive Blacks

## Advantages of Levafix ECO Forest

- Good light and perspiration-light fastness properties
- Good chlorinated water fastness
- Very good fastness to multiple oxidative wash (ISO 105 C09)
- Versatile application in exhaust, Cold Pad Batch and continuous

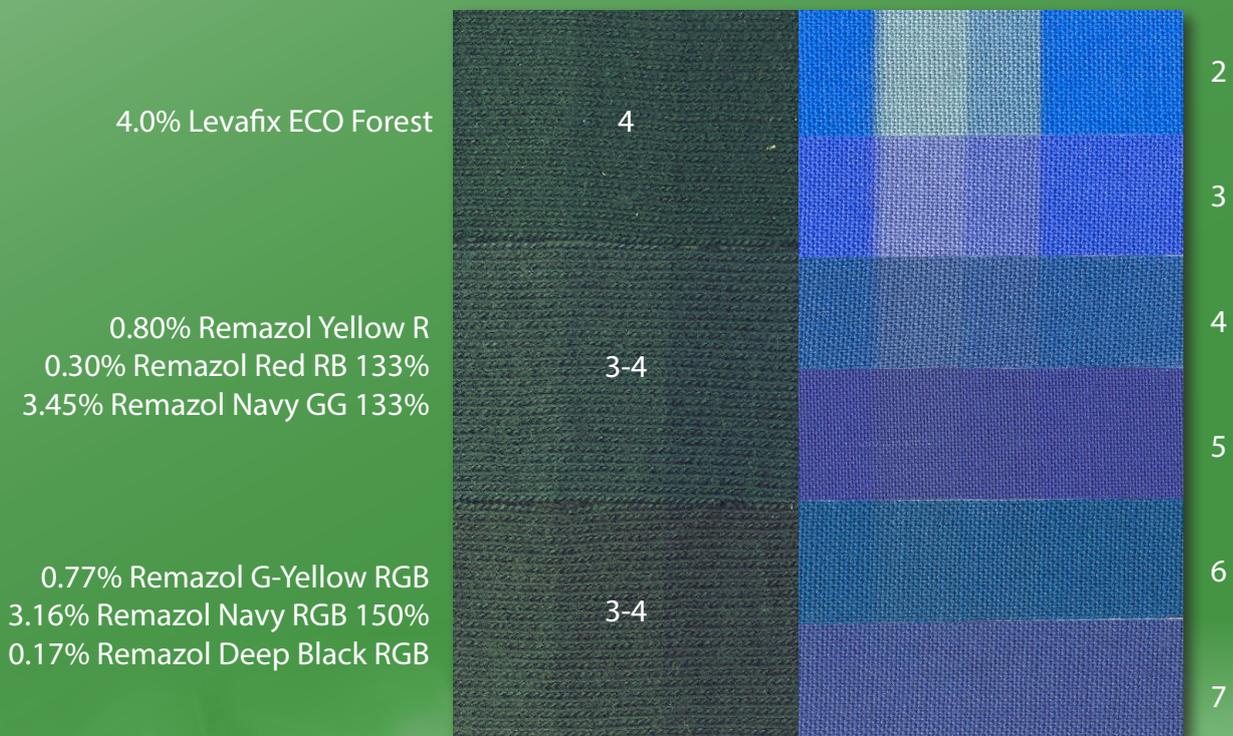
## Levafix ECO Forest econfidence facts

- Free of regulated amines
- Full compliance with **==**<sup>®</sup> Standard 100
- Heavy metal free
- Meets all relevant Restricted Substance Lists (RSL)

*Committed to Sustainability*

# Levafix<sup>®</sup> ECO Forest

## Superior light fastness compared with greens based on navy/black/yellow



Dyeings for light fastness on bleached CO knit in LR 10:1, soda ash caustic soda



*Committed to Sustainability*

At DyStar, our products and services help customers worldwide reduce costs, shorten lead times and meet stringent quality and ecological specifications.



Information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to check its validity and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with our General Conditions of Sale and Delivery.



Levafix are trade marks of DyStar Colours Distribution GmbH  
 Oeko-Tex is a trademark of Forschungsinstitute Hohenstein

**Global Headquarters**  
**DyStar Singapore Pte Ltd**  
 Tel: +65 66 71 28 00 Fax: +65 66 59 13 28 DyStar.Singapore@DyStar.com  
**www.DyStar.com**



101.0001.01.1507