



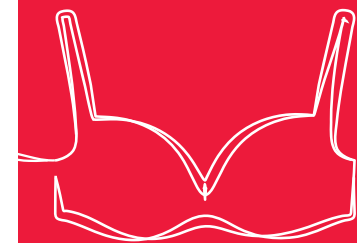
BLANKOPHOR[®]
FOR FLUORESCENT WHITENING
IN THE TEXTILE INDUSTRY

ADDING PASSION TO TEXTILES.

TANATEX[®]
CHEMICALS 

BLANKOPHOR®	Suitability for textile fibres					
	Cotton Viscose Modal fibres	Polyester	Polyamide	Polyacrylonitrile	Wool Silk	Acetate
ACR Liquid				++		++
BA Liquid	++		++		+	
BRU Liquid	++					
BSUN Liquid	++				+	
CCB	++					
CCB Liquid	++					
CCR Liquid	++					
CLE Liquid	++		++		+	
CLE Liquid B	+		++		++	
CO	++		++		+	
CO Liquid	++		++		+	
CO Liquid B-B	++					
DRS Liquid 200% O2				++	+	
PAS Liquid			++			
PAS Liquid B			++			
PET Liquid		++				
PET Liquid B		++				
PET Liquid R		++				
ULTRAWHITE	++					

How to
make a
white
bra



Notes on application BLANKOPHOR®		Cotton					Cotton – Shaded OBA's			Cotton – Specialties	
		CO	BA Liquid CO Liquid	CCB	CCB Liquid	BRU Liquid CCR Liquid	BSUN Liquid	ULTRAWHITE	CO Liquid B-B	CLE Liquid	
Ionity	A = Anionic N = Nonionic C = Cationic		A		A		A		A		
Form supplied	Granules	Solution	Granules	Solution	Solution	Solution	Powder	Solution	Solution		
Density at 20°C (g/cm³)	-	1.15 - 1.21	-	1.08 - 1.16	1.13 - 1.19	1.16 - 1.22	-	1.15 - 1.21	1.05 - 1.11		
Solubility (g/l, 98°C)	250(200) ¹		300(200) ¹				250(200)				
Affinity	High		Low		Low	Very low	High	High	Medium		
Shade of white	Blue		Blue to neutral		Neutral to pale red	Pale red	Blue	Bluish violet	Red		
Stability**	Bleaching liquors containing:	Hypochlorite	-	-	-	-	-	-	++		
		Sodium chlorite	-	-	-	-	-	-	++		
		Peroxide (Alkaline)	++	++	++	++	++	+	Up to pH 10		
		Reducing agents (Hydrosulphite based)	++	++	++	++	-	-	++		
	Acids	Not below pH 5		Not below pH 4.5		Not below pH 3.5	++ pH 1	Not below pH 5	Not below pH 5	pH 1	
	Alkali	++	++	++	++	++	++	++	Not over pH 10		
	Hard water ²	++	++	++	++	++	++	++	++		
Fastness properties **	Light fastness (Xenotest)	3 - 4		3 - 4		3 - 4	3 - 4	3 - 4	3 - 4	5	
	Wash fastness 40°C	5		5 ³		4 - 5 ³	5 ³	5	5	4 - 5	
	Wash fastness 60°C	5		4 - 5 ³		4 - 5 ³	5 ³	5	4 - 5	4 - 5	
	Wash fastness 95°C	4 - 5		4 ³		4 ³	3 - 4 ³	4 - 5	4	3 - 4	
	Perspiration alkaline	5		5		5	5	5	5	5	
	Perspiration acid	5		5		5	5	5	5	5	
	Gas fume fading	5		5		5	5	5	5	5	
	Sublimation 180°C	5		5		5	5	5	5	5	
Sublimation 210°C											
Guide recipes for	Exhaust application Additions in % on weight fabric/goods	Process 1	0.05 - 0.15	0.2 - 0.7	0.05 - 0.2	0.15 - 0.75	0.15 - 1.2	-	0.05 - 0.15	0.2 - 0.7	0.3 - 1.0
		Process 2	0.05 - 0.15	0.2 - 0.7	0.05 - 0.25	0.15 - 0.9	0.15 - 1.2	-	0.05 - 0.15	0.2 - 0.7	-
		Process 3	0.05 - 0.15	0.2 - 0.7	0.05 - 0.2	0.15 - 0.75	0.15 - 1.2	-	-	-	0.3 - 1.0
		Process 4	-	-	-	-	-	-	-	-	0.3 - 1.2
	Continuous Processes Additions in g/l (Liquor pick-up 100%)	Process I	-	-	0.5 - 1.5	2 - 5	-	-	-	-	-
		Process II	-	-	0.5 - 1.5	2 - 6	2 - 6	-	-	-	-
		Process III	-	-	0.5 - 1.5	3 - 5	3 - 10	-	-	-	-
		Process IV	-	-	0.2 - 1.5	0.75 - 5	1 - 6	6 - 15	-	-	-
		Process V	-	-	0.2 - 1.5	0.75 - 5	1 - 6	6 - 15	-	-	-

* / ** for explanations see last page

¹ Remains dissolved in the cooled liquor

³ In resin finishing

* / ** for explanations see last page

² Industrial trials are recommended to confirm compatibility.

² Tested up to 30° German hardness

¹ Tested up to 30° German hardness

Recommended procedures

General

When formulating bleaching liquors, start with the entire quantity of water, then add the bleaching auxiliaries in the order given (diluted if necessary). For peroxide bleaching liquors use water with 4 - 10° GH. If only soft water is available, add approx. 0,2 g/l Magnesiumsulphate (MgSO₄ x 7 H₂O).

Cotton

Exhaust processes

Process 1: Fluorescent whitening in aqueous liquors

- Liquor ratio 1:8 - 1:20
- 20 - 30 minutes at 50 - 80°C
- X % BLANKOPHOR®

If required 3 - 5 g/l Sodium sulphate

Process 2a: Fluorescent whitening in peroxide bleaching liquors

(Cotton knits) By using mineral technology

- Liquor ratio 1:8 - 1:20 (Apparatus: Jet, Winches)
- 45 - 90 minutes at 85-95°C or
- 20 - 40 minutes at 110 - 115°C
- 1,5 - 2 ml/l TANNEX® NOVECO
- 1,5 - 3 g/l Caustic soda 100%
- 4,5 - 10 ml/l Hydrogen peroxide 35%

If required 3 - 5 g/l Sodium sulphate

X % BLANKOPHOR®

- Rinse hot (80 - 90°C), with an addition of 1 ml/l PLEXENE® CA if required, rinse warm and cold.

Process 2b: Fluorescent whitening in peroxide bleaching liquors

(Cotton X-cones)

- Liquor ratio 1:8 - 1:20 (Apparatus: Kiers, Beams)
- 45 - 90 minutes at 85 - 95°C or
- 30 - 60 minutes at 110 - 115°C

- 1,5 - 2 ml/l TANNEX® NOVECO
- 1,5 - 3 g/l Caustic soda 100%
- 4,5 - 10 ml/l Hydrogen peroxide 35%

If required 3 - 5 g/l Sodium sulphate

X % BLANKOPHOR®

- Rinse hot (80-90°C), with an addition of 1 ml/l PLEXENE® CA if required, rinse warm and cold.

Process 2c: Fluorescent whitening in peroxide bleaching liquors

(Cotton fabric)

- Liquor ratio 1:2 - 1:6 (Apparatus: Jigs, Kiers, Beams)
- 45 - 90 minutes at 85-95°C

- 3 - 5 ml/l TANNEX® RENA Liquid 01
- 0,7 - 1,5 g/l TANATERGE® ADVANCE
- 2,5 - 4 g/l Caustic soda 100%
- 6 - 14 ml/l Hydrogen peroxide 35%

X % BLANKOPHOR®

- Rinse hot (80-90°C), with an addition of 1 ml/l PLEXENE® CA if required, rinse warm and cold.

Process 3: Fluorescent whitening in reductive bleaching liquors

- Liquor ratio 1:8 - 1:20
- 20 - 30 minutes at 70 - 80°C

1 - 3 g/l Stabilized hydrosulphite *
 If required 3 - 5 g/l Sodium sulphate
 0,5 - 1,5 g/l Soda ash
 If required 0,5 - 1,5 g/l PLEXENE® CA
 X % BLANKOPHOR®

- Rinse warm and cold

Continuous processes and pad application

General note:

For all padding processes with a short immersion time, we recommend adding 0,5 - 2 g/l ERKANTOL® NR

Process I: Peroxide pad-steam bleaching

		A	B	C
Liquor pick-up	%	90 - 120	90 - 120	90 - 120
Steaming temperature	°C	95 - 100	95 - 130	95 - 100
Steaming time	min	10 - 45	10 - 45	1,5 - 10
TANNEX® RENA Liquid 01	ml/kg	8 - 15	-	-
TANNEX® DB	ml/kg	-	3 - 7	3 - 7
TANATERGE® ADVANCE	g/kg	2 - 4	2 - 4	2 - 4
Caustic soda 100%	g/kg	3 - 12	5 - 8	8 - 20
Hydrogen peroxide 35%	ml/kg	20 - 50	20 - 50	20 - 50
BLANKOPHOR®	g/kg	-	-	-

- Rinse hot (95°C) with an addition of 1 ml/l PLEXENE® CA and if required, 3 g/l Sodium Sulphate followed by warm and cold rinse.

Process II: Immersion peroxide bleaching

- Liquor ratio 1:5 - 1:15
- Liquor temperature 80 - 90°C
- Batching time 20 - 40 minutes
- 8 - 15 ml/l TANNEX® RENA Liquid 01
- 4 - 8 g/l TANATERGE® AL
- 3 - 12 g/l Caustic soda 100%
- 10 - 30 ml/l Hydrogen peroxide 35%
- X g/l BLANKOPHOR®

- Rinse as for Process I

Process III a: Cold pad-batch peroxide bleaching

- Impregnate cold
- Batching time 20 - 24 hours
- 6 - 12 ml/l TANNEX® DB
- 3 - 4 g/l TANATERGE® ADVANCE
- 10 - 20 g/l Caustic soda 100%
- 40 - 70 ml/l Hydrogen peroxide 35%
- X g/l BLANKOPHOR®

- Rinse as for Process I

Process III b: Cold pad-batch peroxide bleaching

- Impregnate cold
- Batching time 20 - 24 hours
- 8 - 15 ml/l TANNEX® RENA Liquid 01
- 3 - 4 g/l TANATERGE® ADVANCE
- 5 - 10 g/l Caustic soda 100%
- 40 - 70 ml/l Hydrogen peroxide 35%
- X g/l BLANKOPHOR®

- Rinse as for Process I

Process IV: Resin finishing (reactant finishes)

- Impregnate cold
- Dry at 100°C
- Cure for 4 minutes at 155°C
- 80 - 140 g/l PROTOREZ FFO 01
- 16 - 28 g/l CURITE 5184
- X g/l BLANKOPHOR®

Process V: Aqueous application

- Impregnate cold
- Dry at 100°C
- X g/l BLANKOPHOR®
- If required 3 - 6 g/l Sodium sulphate
- or 2 - 4 g/l LEVEGAL® LPA 01

Suitability of BLANKOPHOR® - brands for use in resin finishing
 - Compatibility with catalysts -

Reactant finish (dry cross linking)

Catalyst	Magnesium-chloride	Zinc-chloride
BLANKOPHOR® BBU/CCB - brands	Above pH 5	Not suitable
BLANKOPHOR® BRU/CCR - brands	Above pH 3,5	Above pH 5
BLANKOPHOR® BSUN Liquid	For all pH-values	For all pH-values

All BLANKOPHOR® brands suitable for cellulosic fibres are suitable for dry curing with synthetic resins.

- All commonly used catalysts, except nitrates can be used.
- Lightfastness drops dramatically in the presence of nitrates.
- The goods turn brown on exposure to light if they are not washed out thoroughly after finishing.

* TANEDE® RC could be used as alternative.

Notes on application BLANKOPHOR®		Polyester		
		PET Liquid	PET Liquid B	PET Liquid R
Ionicity	A = Anionic N = Nonionic C = Cationic	N	N	N
Form supplied	Dispersion	Dispersion	Dispersion	
Density at 20°C (g/cm³)	1.06 - 1.12	1.06 - 1.12	1.06 - 1.12	
Solubility (g/l, 98°C)				
Affinity				
Shade of white	Red	Bluish violet	Reddish violet	
Stability*	Bleaching liquors containing:	Hypochlorite	-	-
		Sodium chlorite	+	+²
		Peroxide (Alkaline)	++	++
		Reducing agents (Hydrosulphite based)	++¹	++¹
	Acids	Not below pH 2	Not below pH 2	Not below pH 2
Alkali	++	++	++	
Hard water²	++	++	++	
Fastness properties **	Light fastness (Xenotest)	5 - 6	5 - 6	5 - 6
	Wash fastness 40°C	5	5	5
	Wash fastness 60°C	5	5	5
	Wash fastness 95°C			
	Perspiration alkaline	5	5	5
	Perspiration acid	5	5	5
	Gas fume fading	5	5	5
	Sublimation 180°C	5	5	5
Sublimation 210°C	4 - 5	4 - 5	4 - 5	
Guide recipes for	Exhaust application Additions in % on weight fabric/goods	Process 1	0.1 - 0.3	0.1 - 0.3
		Process 2	0.1 - 0.4	0.1 - 0.4
		Process 3	0.1 - 0.4	0.1 - 0.4
		Process 4	-	-
	Continuous Processes Additions in g/l (Liquor pick-up 100%)	Process I	0.5 - 2	0.5 - 2
		Process II	0.5 - 4	0.5 - 4
		Process III	0.5 - 4	0.5 - 4
		Process IV	-	-
		Process V	-	-

* / ** for explanations see last page

¹ Reducing agents may discolor PES and/or shading dyestuffs. Preliminary trials are therefore essential.

² The shading dyes in BLANKOPHOR® PET Liquid B and BLANKOPHOR® PET Liquid R are not stable.

Polyester Exhaust processes

Process 1: Carrier process

- Liquor ratio 1:10 - 1:20
- Raise temperature to 80°C with 2°C/minute
- Raise temperature from 80°C to 98°C with 1°C/minute
- Run for 30 minutes at 98°C

0,5 - 2 % LEVEGAL® DLP
2 - 4 % TANAVOL® DAP
X % BLANKOPHOR®

Process 2: HT process

- Liquor ratio 1:10 - 1:20
- Raise temperature to 90°C with 2°C/minute
- Raise temperature from 90°C to 130°C with 1°C/minute
- Run for 30 minutes at 130°C

0,5 - 2 % LEVEGAL® DLP
X % BLANKOPHOR®

Process 3: AF process

- Liquor ratio 1:10 - 1:20 (Apparatus: Jet, Winches and Overflow)
- Raise temperature to 50°C with 1°C/minute
- Run for 30 minutes at 50°C
- Dry at 100 °C
- Fixate for 20 - 30 seconds at 170 - 200°C **

1 % Sodium sulphate
pH 4 - 5 Acetic acid
X % BLANKOPHOR®

Continuous processes

Process I: Thermosol process for 40 - 20 seconds at 170 - 180°C on dried goods.

Process II: Thermosol process for 30 - 15 seconds at 180 - 210°C on dried goods.

Process III: Pad-steam process for 120 - 60 seconds at 160 - 180°C in HT steam.

If finishing products are applied at the same time, preliminary trials must be carried out to ensure that they are compatible with BLANKOPHOR®.

Notes on application BLANKOPHOR®		Polyamide					
		BA Liquid CO Liquid	CLE Liquid	CLE Liquid B	PAS Liquid	PAS Liquid B	
Ionity	A = Anionic N = Nonionic C = Cationic	A	A	A	A	A	
Form supplied		Solution	Solution	Solution	Solution	Solution	
Density at 20°C (g/cm³)		1.15 - 1.21	1.05 - 1.11	1.05 - 1.11	1.03 - 1.09	1.03 - 1.09	
Solubility (g/l, 98°C)							
Affinity		Medium	High	High	High	High	
Shade of white		Neutral	Red	Bluish violet	Violet	Bluish violet	
Stability*	Bleaching liquors containing:	Hypochlorite	-	++	++ ¹	+	+ ¹
		Sodium chlorite	-	++	++ ¹	-	-
		Peroxide (Alkaline)	++	++	++ ¹	++	++ ¹
		Reducing agents (Hydrosulphite based)	++	++	++	++	++
Acids		Not below pH 5	pH 1	pH 1	pH 1	pH 1	
Alkali		++	Not over pH 10	Not over pH 10	++	++	
Hard water ²		++	++	++	++	++	
Fastness properties **	Light fastness (Xenotest)	3 - 4	5 - 6	5 - 6	4 - 5	4 - 5	
	Wash fastness 40°C	5	5	5	5	5	
	Wash fastness 60°C	4 - 5	5	5	4 - 5	4 - 5	
	Wash fastness 95°C						
	Perspiration alkaline	4 - 5	5	5	4 - 5	4 - 5	
	Perspiration acid	4	5	5	4 - 5	4 - 5	
	Gas fume fading	4	5	5	5	5	
	Sublimation 180°C	5	5	5	4 - 5	4 - 5	
Sublimation 210°C	5 ²	5 ²	5 ²	4 - 5 ²	4 - 5 ²		
Guide recipes for	Exhaust application Additions in % on weight fabric/goods	Process 1	0.5 - 2.5	0.2 - 2.5	0.2 - 2.5	0.2 - 2.5	0.2 - 2.5
		Process 2	-	-	-	-	-
		Process 3	-	-	-	-	-
		Process 4	-	-	-	-	-
	Continuous Processes Additions in g/l (Liquor pick-up 100%)	Process I	-	2.5 - 20	2.5 - 20 ³	2.5 - 20	2.5 - 20 ³
		Process II	1.5 - 18	2.5 - 20	2.5 - 20 ³	2.5 - 20	2.5 - 20 ³
		Process III	-	2.5 - 20	-	2.5 - 20	-
		Process IV					
		Process V					

* / ** for explanations see last page

¹ Shading dyestuff not stable

³ Padding liquors not above 25°C

² Yellow discoloration of fibres

Polyamide Exhaust process

Process 1: Fluorescent whitening in reductive bleaching liquors

- Liquor ratio 1:5 - 1:20
- Polyamide 6 30 minutes at 70 - 120°C
- Polyamide 6.6 30 minutes at 90 - 120°C

X % BLANKOPHOR®
2 - 4 g/l Stabilized hydrosulphite *
0,5 - 1 g/l TANATERGE® LFN 01 or
DIADAVIN® UNJ
pH approx. 5 with acetic acid **

Continuous processes

Process I: Thermosol process

- Impregnate
- Dry at 100°C
- Thermosol treatment:
Polyamide 6 20 seconds at 190°C
Polyamide 6.6 20 seconds at 200°C

X g/l BLANKOPHOR®
(Add shading dyestuff if required)

Process II: Pad steam process

- Impregnate
- Dry at 100°C
- Steaming for 3 - 5 minutes at 102°C in saturated steam

X g/l BLANKOPHOR®
If required 5 - 10 g/l Stabilized hydrosulphite *
- Rinse

Process III: Acid shock process or hot water fixation process

- Impregnate.
- Shock treatment for 5 - 20 seconds at 90 - 95°C.

X g/l BLANKOPHOR®
pH 4 - 5 Acetic acid **

- Rinse

** Do not add acid when using

* TANEDE® RC or TANEDE® LR can be used as
alternative, setting the pH at pH 6-7.

BLANKOPHOR® CO, BLANKOPHOR® BA Liquid or
BLANKOPHOR® CO Liquid.

WE BRIGHT

Extreme Whiteness Concept
THE BRIGHTEST WHITE

TANATEX Chemicals helps fashion brands and their suppliers obtain the brightest white.

The problem with white articles is that they tend to yellow by external influences. Such influences that you as a fashion brand or textile mill do not control. At TANATEX we have found the winning combination of products that help you get the ultimate white. Our product specialists can explain exactly how to implement the Extreme Whiteness Concept into the production process of your yarn, fabric or garment. Ultimately this prevents articles being returned by retail parties or consumers because they have lost their sparkle.

Visit THEBRIGHTESTWHITE.COM for more information or related products.



Notes on application BLANKOPHOR®		Polyacrylonitrile	
		ACR Liquid	DRS Liquid 200% 02

Ionity	A = Anionic N = Nonionic C = Cationic	C	C
Form supplied		Solution	Solution
Density at 20°C (g/cm³)		1.02 - 1.08	1.10 - 1.16
Solubility (g/l, 98°C)			
Affinity		High	High
Shade of white		Red	Red

Stability*	Bleaching liquors containing:	Hypochlorite	-	-
		Sodium chlorite	++	-
		Peroxide (Alkaline)	-	-
		Reducing agents (Hydrosulphite based)	++	+
	Acids		Not below pH 2	Not below pH 2
	Alkali		-	-
	Hard water ²		++	+

Fastness properties **	Light fastness (Xenotest)	4	4
	Wash fastness 40°C	5	5
	Wash fastness 60°C	4 - 5	4 - 5
	Wash fastness 95°C		
	Perspiration alkaline	5	5
	Perspiration acid	5	5
	Gas fume fading	5	4 - 5
	Sublimation 180°C	3 - 4 ¹	3 - 4 ¹
	Sublimation 210°C		

Guide recipes for	Exhaust application Additions in % on weight fabric/goods	Process 1	0.2 - 1.5	-
		Process 2	0.2 - 1.5	0.1 - 1.5
		Process 3	-	0.1 - 1.5
		Process 4	0.2 - 1.5	0.1 - 1.5
	Continuous Processes Additions in g/l (Liquor pick-up 100%)	Process I	2 - 15	1 - 10
		Process II		
		Process III		
		Process IV		
		Process V		

Polyacrylonitrile Exhaust processes

Process 1: Fluorescent whitening in chlorite bleaching liquors

- Liquor ratio 1:10 - 1:40
- 20 - 30 minutes at 98°C, heating rate above 70 - 80°C at 0,3°C/min

2,5	-	5	g/l	Sodium chlorite 30% liquid*
		0,5	g/l	AVOLAN® IW-E Liquid
pH	3,5			Formic- or Nitric acid
		X	%	BLANKOPHOR® ACR Liquid
0,5	-	1	%	PERSOFTAL® WKF Liquid (add above 85°C)

Process 2: Fluorescent whitening without chlorite bleaching liquors

- Liquor ratio 1:10 - 1:40
- 20 - 30 minutes at 98°C, heating rate above 70 - 80°C at 0,3°C/min

	0,5	g/l	AVOLAN® IW-E Liquid
pH	3 - 4		Acetic acid
	X	%	BLANKOPHOR®

Process 3: Where the manufacturers' instructions state that fibres cannot be bleached with sodium chlorite, the whiteness may be increased by adding:

0,3	ml/l	Sodium bisulphite 40% liq.
0,5	g/l	Oxalic acid (instead of the acid given in Process 2)
0,25	g/l	Sodium hexametaphosphate - add last
X	%	BLANKOPHOR® DRS liq. 200% 02

Process 4: One-bath rapid process

- Shrinking
- Fluorescent
- Softening
- Bleaching, if desired

Recipes as for processes 1-3

Continuous process

Process 1a: Pad-steam process (woven and knitted fabrics)

0,5	g/l	Oxalic acid
X	%	BLANKOPHOR®

Mainly suitable for printed goods. The material is padded cold, dried, printed, if desired and steamed for 6-30 minutes (saturated steam, 102°C), then washed again and dried.

Process 1b: Pad-steam process (tow)

5	-10	g/l	PERSOFTAL® WKF Liquid
X		g/l	BLANKOPHOR® **
1		ml	Acetic acid 40% / g BLANKOPHOR®

Thickening agent e.g. Solvitose OFA (AVEBE). The material is padded cold, steamed for 6-7 minutes (saturated steam, 102°C), rinsed warm (40°C) then cold and finally dried.

* Add chlorite stabilizer or activator.

** preferably BLANKOPHOR® DRS liq 200% 02

Notes on application BLANKOPHOR®		Wool			
		BSUN Liquid	CLE Liquid B	DRS Liquid 200% 02	
Ionity	A = Anionic N = Nonionic C = Cationic	A	A	C	
Form supplied		Solution	Solution	Solution	
Density at 20°C (g/cm³)		1.16 - 1.22	1.05 - 1.11	1.10 - 1.16	
Solubility (g/l, 98°C)					
Affinity		Medium	High	Medium	
Shade of white		Pale red	Bluish violet	Red	
Stability*	Bleaching liquors containing:	Hypochlorite	-	++ ¹	-
		Sodium chlorite	-	++ ¹	-
		Peroxide (Alkaline)	+	Up to pH 10 ¹	-
		Reducing agents (Hydrosulphite based)	++	++	+
	Acids	pH 1	pH 1	Not below pH 2	
	Alkali	++	Not over pH 10	-	
	Hard water ²	++	++	+	
Fastness properties **	Light fastness (Xenotest)	2	2 - 3	2	
	Wash fastness 40°C	4	4	3	
	Wash fastness 60°C	2 - 3	2 - 3	2 - 3	
	Wash fastness 95°C				
	Perspiration alkaline	4 - 5	5	4	
	Perspiration acid	4	4 - 5	4	
	Gas fume fading	3 - 4	3 - 4	3 - 4	
	Sublimation 180°C				
Guide recipes for	Exhaust application Additions in % on weight fabric/goods	Process 1	-	0.2 - 2	-
		Process 2	0.2 - 1.2	-	0.1 - 1
		Process 3	0.2 - 1.2	-	-
		Process 4	-	-	-
	Continuous Processes Additions in g/l (Liquor pick-up 100%)	Process I			
		Process II			
		Process III			
		Process IV			
		Process V			

Wool Exhaust process

A high degree of basic whiteness is essential to obtain optimum whiteness on wool and other animal fibres. The best results are obtained by:

- oxidative bleaching, which may be either weakly alkaline or acid
- reductive bleaching with sodium dithionite (hydrosulphite) products or with specially activated reducing agents.

Guide recipes for	10	- 20	ml/l	Hydrogen peroxide 35%
Oxidative/Reductive Bleaching		2	g/l	Tetrasodium pyrophosphate
	1	- 2	g/l	DIADAVIN® UN *
	pH	9		Ammonia
	1	- 2		hours at 55°C; then rinse

Process 1: Fluorescent whitening in reductive bleaching liquors

- Liquor ratio 1:10 - 1:40
- Raise temperature slowly to 50-60°C, treat for 1 - 3 hours at 50 - 60°C, rinse warm and cold. If required, add 0,2 - 1 ml/l hydrogen peroxide 35% to the last rinse bath.

2	- 4	g/l	Stabilized hydrosulphite
1	- 2	g/l	DIADAVIN® UN *
0,5	- 1,0	g/l	TANEDE® NOVA
	X	%	BLANKOPHOR®

Process 2: Fluorescent whitening in reductive bleaching liquors

- Liquor ratio 1:10 - 1:40
- Treat for 1 - 2 hours at 50 - 60°C, then set at approx. pH 3,5 e.g. with 2 ml/l acetic acid 60%.
- Treat for 15 minutes, then rinse warm and cold

2	- 4	g/l	Stabilized hydrosulphite
1	- 2	g/l	DIADAVIN® UN *
0,5	- 1,0	g/l	TANEDE® NOVA
	X	%	BLANKOPHOR®

Process 3: For the felt-processing industry

0,2 - 1,2 % BLANKOPHOR® BSUN Liquid

- Treat in a strongly acid medium (pH 1 - 2) for 30 - 90 minutes at 60 - 90°C, then rinse warm and cold.

* / ** for explanations see last page

¹Shading dyestuff not stable

* TANATERGE® LFN 01 can be used instead.

Ionicity	A = Anionic N = Nonionic C = Cationic	C		
Form supplied	Solution			
Density at 20°C (g/cm³)	1.02 - 1.08			
Solubility (g/l, 98°C)				
Affinity	Medium			
Shade of white	Red			
Stability*	Bleaching liquors containing:	Hypochlorite	-	
		Sodium chlorite	++	
		Peroxide (Alkaline)	-	
		Reducing agents (Hydrosulphite based)	++	
	Acids	++		
Alkali	-			
Hard water ²	++			
Fastness properties **	Light fastness (Xenotest)	4		
	Wash fastness 40°C	5		
	Wash fastness 60°C	4 - 5		
	Wash fastness 95°C			
	Perspiration alkaline	5		
	Perspiration acid	5		
	Gas fume fading	5		
	Sublimation 180°C	5		
Sublimation 210°C				
Guide recipes for	Exhaust application Additions in % on weight fabric/goods	Process 1	0.50 - 2	
		Process 2	-	
		Process 3	-	
		Process 4	-	
	Continuous Processes Additions in g/l (Liquor pick-up 100%)	Process I	5 - 20	
		Process II	5 - 20	
		Process III	5 - 20	
		Process IV	-	
		Process V		

*/ ** for explanations see last page

Acetate
Exhaust process**Process 1: Fluorescent whitening in reductive bleaching liquors**

- Liquor ratio 1:5 - 1:10
- 30 minutes at 70 - 80°C

2	-	5	g/l	Stabilized hydrosulphite *
pH	5			Acetic acid
	X	%		BLANKOPHOR® ACR Liquid

Continuous processes

Process I: Cold pad-batch process

- Impregnate cold
- Batch 16 - 24 hours

0,2	-	0,5	g/l	AVOLAN® IW-E Liquid
pH	4			TANACID® NAC
	X	g/l		BLANKOPHOR® ACR Liquid

- Rinse

Process II: Pad-roll process

- Impregnate cold
- Batch 4 hours at 40 - 70°C

0,2	-	0,5	g/l	AVOLAN® IW-E Liquid
pH	4			TANACID® NAC
	X	g/l		BLANKOPHOR® ACR Liquid

- Rinse

Process III: Pad-steam process

- Impregnate cold
- Steam for 5 - 20 minutes at 98 - 102 °C

0,30	-	01	g/l	AVOLAN® IW-E Liquid
pH	4			TANACID® NAC
	X	g/l		BLANKOPHOR® ACR Liquid

- Rinse

* TANEDE® RC or TANEDE® LR can be used as alternative.

Notes to tables

* Stability in the liquor

- ++ very good stability
- + stable
- not stable

** Fastness properties

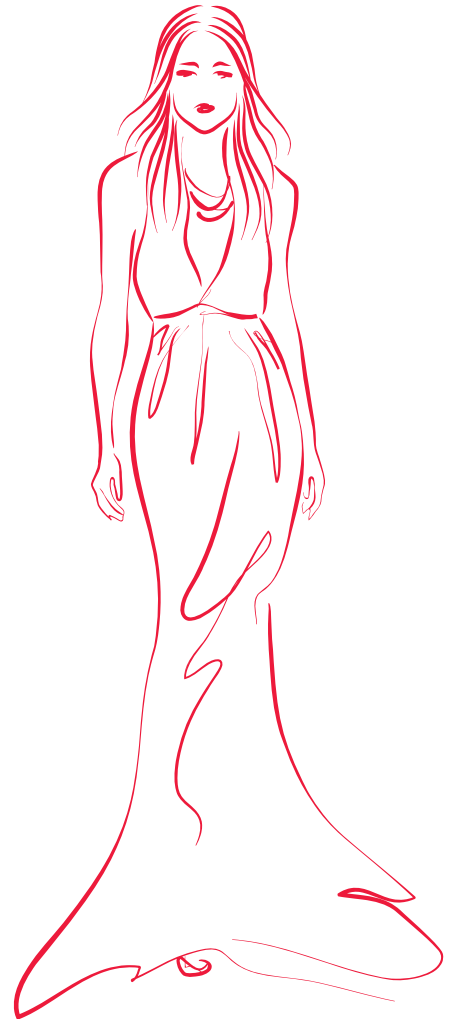
The fastness properties were tested and evaluated in accordance with the guidelines for evaluating the colourfastness of textiles (ISO). Fastness of fluorescent whiteners depend on the quantities applied, the mode of application as well as the provenience of the fibre material. This may result in deviations of fastnesses compared to the ones given by us.

Lightfastness (Xenotest)	ISO 105-B02
Washfastness 40 °C	ISO 105-C06 A1
Washfastness 60 °C	ISO 105-C06 C1
Washfastness 95 °C	ISO 105-C06 E1
Fastness to perspiration	ISO 105-E04
Fastness to gas fume fading	ISO 105-G01
Fastness to sublimation	ISO 105-P01

General note on product designations

Under statutory regulation on occupational safety, environmental protection and transportation, all changes to the composition of products must be indicated. Changes are indicated by adding numbers to the product designation, e.g. 01, 02, etc. They do not alter the technical properties of the product.

*Stay white with
extreme whiteness
concept*



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EXTREME WHITENESS CONCEPT

Your customers invest time and money in finding perfect intimate lingerie. They expect it to be sexy, have a perfect fit and have a luxurious appearance. They search for high-quality, the brightest white that lasts. But after wearing and washing, they discover that the white can lose its sparkle.

Do we have your attention?

TANATEX Chemicals wants to enable you to make the best evaluation possible. Our global team of product specialists is all set to advise you on your whiteness issues. Schedule a preliminary meeting and find out how you can improve the whiteness retention of your yarn, fabric or garment.

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TANATEX Chemicals breaks new ground with ultramodern textile processing solutions, ranging from pre-treatment to finishing. Through a global network of offices, agencies and distributors, we support our customers worldwide with advanced top quality wet processing products and a high level of technical and tailor-made service. For almost 60 years we have proven to be a trustworthy and innovative associate. Since 2016 we are a company of Transfar Chemicals.

Our cutting-edge products are based on the latest trends and demands in today's (technical) textiles and carpet processing industry. We do not sell mere products; we offer fit-for-purpose solutions. With an eco-friendly way of thinking, TANATEX experts are the ones to watch.

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