OPTICAL BRIGHTENERS	C.I.NO.	USES
1. XL White 2B / 2B Conc.	24	Fluorescent Whitening agent with moderate affinity for Natural & Regenerated Cellulosic / Polyamide fibres & Paper.
2. XL White HI	___	Reddish Fluorescent Whitening agent for Natural & Regenerated Cellulosic fibres.
3. XL White BVN	1	Fluorescent Whitening agent for Natural & Regenerated Cellulosic & Polyamide fibres / Paper.
4. XL White 2BF Liq.	220	Fluorescent Whitening agent for Natural & Regenerated Cellulosic / Polyamide fibres & Paper.
5. XL White WHN	253	Fluorescent Whitening agent for Polyamide / Wool / Silk & their Blends.
6. XL White PC	136	Fluorescent Whitening agent for Natural & R egenerated Cellulosic / Polyamide fibres & Paper.
7. XL White BBU	220	Fluorescent Whitening agent for Cellulosic Fibers & Polyester / Cellulose Blends.
8. XL White 4BM	28	Fluorescent Whitening agent for Detergent & Cellulosic fibres.
9. XL White DMX	71	Fluorescent Whitening agent for Detergent & Cellulosic fibres.

(C.I. No. O.B. 24)

XL WHITE-2B & XL WHITE-2B CONC.

FLUORESCENT WHITENING AGENT WITH MODERATE AFFINITY FOR NATURAL AND REGENERATED CELLULOSIC AND POLYAMIDE FIBRES & PAPER

FEATURES

- Brilliant bluish white effects.
- Very good stability in hydrogen peroxide and sodium dithionite bleach baths.
- Good compatibility with finishing agents, including synthetic resins.
- Good wet fastness.
- Good fastness to hypochlorite.
- Can be used in: Finishing, bleaching, dyeing, print and discharge pastes.

PROPERTIES

- Forms : Yellowish green, non-hygroscopic powders.
- Chemical constitution: Stilbene disulphonic acid derivative.
- Ionic properties : Anionic.
- pH (1%) : About 9
- Shade : Bluish.
- Storage stability : Very good at low temperature.

Solubility	XL White 2BConc.	XL White 2B
In boiling water	200 g/l	100 g/l
In cooled liquor	50 g/l	25 g/l

APPLICATION : CELLULOSIC FIBRES

TYPICAL RECIPES

	Exhaust Method With and Without Bleach	Peroxide Continuous Bleach	
		Dry-on-Wet	Wet-on-Wet
XL White-2B	0.2 - 0.8%	2 - 6g/l	Stable in concentrated baths
XL White-2B 200%	0.1 - 0.4%	1 - 3g/l	
Glauber's salt anhydrous	2 - 5 g/l		
Hydrogen peroxide 35% w/w	3 - 8 ml/l	25 - 50 ml/l	
Sodium silicate 66° Tw (36 Be)	-	10- 20 ml/l	
Peroxide stabilizer	0.5 - 1 ml/l	3 - 6 ml/l	
Caustic soda, solid	1 - 2 g/l	4 - 8 g/l	
Wetting agent	1 - 2 g/l	2 - 4 g/l	
pH	5-12		
Treatment time	20-120 min	1/2-2 hours	
temp. °C (°F)	20- 85°C	90°C	
(70-185°F)	(195°F)-cold		
Rinsing/washing off* if necessary	hot and cold	° hot and cold	

*softening, if necessary: 0.5 - 3% at 40 C (105 F).

*An addition of electrolyte is recommended at high temperature.

SHADING WITH DYES

Even fabrics with very high white effects often have a greyish to yellowish tinge when viewed from certain angles. Shading dyes are used to correct shade differences of this kind and to improve the visual impression of whiteness.

We recommendnd weakly acid dyes for : dry cross-linking, damp cross-linking, wet cross-linking, padding.

e.g. Acid violet 3B 1-5 ml (solution 1:1000)

EXHAUST METHOD/BLEACHING

XL White-2B is suitable for use in neutral, alkaline and slightly acid baths, short or long liquors and at temperatures of 20-120°C (70-250°F), preferably 20-60°C (70-140°F).

DISSOLVING

These products are dissolved by adding 5-10 times their weight of hot, preferably boiling water and if necessary, by boiling up briefly with live steam.

POLYAMIDE FIBRES: EXHAUST METHOD

SUGGESTED RECIPE

0.5 - 2 % XL White-2B
0.5 - 2 g/l non-ionic detergent
0.5 - 1 g/l sequestering agent
2 - 3 g/l sodium dithionite
2 - 4 % acetic acid 80%

PROCEDURE

Open system : 30-40 min. at about 95°C (205°F)
HT : 20-30 min. at 120-130°C (250-265°F)
Treat with : 0.5-3% softener

LEVELLING/STRIPPING

1-2 g/1 levelling agent 20-60 min. at 60-90°C (140-195°F)

For a better white effect and to avoid subsequent yellowing, the addition to hydrogen peroxide is recommended. Striping can be carried out with a chlorite bleach.

STABILITY

Hydrogen peroxide bleach bath	Very good
Hydrogen peroxide continuous bleach	Very good
Hypochlorite bleach bath, mild	Not stable
Reduction bleach bath, mild	Not stable
Reduction bleach bath (Based on sodium dithionite)	Very good
Acid baths	Good
Alkaline baths	Very good

FASTNESS PROPERTIES

	Cellulosic	Polyamide
Light	3 - 4	3
Washing, test 1 40°C (105°F)	5	5
Washing, test 3 60°C	5	4 - 5
(140°F) Washing, test 4	4	4
95°C (205°F) Chlorine, mild	5	-
Chlorine, severe	4	-
Chlorite, mild	1	1
Acid	5	5
Alkali	5	-
Perspiration, acid and alkaline	5	-
Dry heat [30 sec/180°C (355°F)]	5	5

Note: The usual hygiene and safety rules for handling chemicals should be observed in storage, handling & use. The product must not be swallowed.

(C.I. No. O.B. Reddish)

XL WHITE-HI

FLUORESCENT WHITENING AGENT FOR CELLULOSIC FIBRES

FEATURES

- Imparts a dazzling pinkish white.
- Good compatibility with finishing agents.
- Good wet fastness.

PROPERTIES

- Form : Reddish grey powder.
- Chemical constitution : Stilbene disulphonic acid derivative.
- Ionic properties : Anionic.
- pH (1%) : About 9±.
- Shade : Pinkish.
- Solubility : Readily miscible with water.

STABILITY

Hydrogen peroxide : Very good
Sodium chlorite : Poor
Chlorine pH 11 (cold) : Moderate
Alkali : Very good

APPLICATION

DISSOLVING

XL White-HI is dissolved by adding 5-10 timesits weight of hot, preferably boiling water and if necessary by boiling up briefly with live steam. Stock solution should be stored away from light.

OPTICAL BRIGHTENING

	Exhaust Method	Padding Method
XL White-HI	0.025 - 0.25%	0.2 - 2.0 g/l
Glauber's salt (anhydrous)	2.5 g/l	-
Temperature	50^{0}C	25^{0}C
Time	20 min	-

SOFTENING AND OPTICAL BRIGHTENING IN ONE BATH

	Exhaust Method	Padding Method
XL White-HI	0.025 - 0.25%	0.2 - 2.0 g/l
Glauber's salt (anhydrous)	2.5 g/l	-
Softener with antistatic properties	0.5 - 3%	10 - 30 g/l
Temperature	50°^{0}C	25^{0}C
Time	20 min.	-
pH	5-6	5-6

STRIPPING

Stripping can be carried out by treating in a cold bath containing:

0.25 - 0.5% Potassium permanganate

0.5% Sulphuric acid for 20 minutes

The goods are then treated with

2 - 3% Sodium bisulphite

0.5% Sulphuric acid

at 40^{0}C, followed by neutralization and rinsing.

An after treatment with light hydrogen peroxide is recommended to restore the whiteness and avoid subsequent yellowing.

(C.I. No. O.B. 1)

XL WHITE-BVN

FLUORESCENT WHITENING AGENT FOR CELLULOSIC FIBRES

FEATURES

- Brilliant neutral white effects.
- Stable to acid.
- Extremely good stability to resin finishing chemicals specially magnesium chloride.
- Very good stability in hydrogen peroxide bleach baths.
- Good compatibility with finishing agents.
- Good wet fastness.
- Moderate fastness to chlorine.
- Good light fastness.
- Can be used in:
  Bleaching
  Dyeing
  Finishing
  Printing and discharge pastes.

PROPERTIES

- Form : Yellow powder.
- Chemical constitution: Stillbene disulphonic acid derivative.
- Ionic properties : Anionic.
- pH (1%) : About 9±
- Solubility :
  In boiling water : 70 g/l.
  In cooled liquor : 25 g/l.

STABILITY

Hydrogen peroxide	: Very good
Magnesium chloride	: Very good
Sodium chlorite	: Poor
Chlorine pH 11 (cold)	: Moderate
Alkali	: Very good

APPLICATION

DISSOLVING

XL White-BVN is dissolved by adding 5-10 times itsweight of hot, preferably boiling water and if necessary boiling further. Stock solutions are sensitive to light and must be stored away from light.

Cellulosic materials can be whitened with XL White- BVN at all stages of manufacturing either by exhaust or bypadding method.

SUGGESTED RECIPE

	Exhaust Method	Padding Method
XL White-BVN	0.05 - 1.0%	0.2 - 3.5 g/l
Glauber's salt (anhydrous)	2 - 5 g/l	-
pH (adjusted, if necessary, with ammonia or soda ash)	8 - 11	8 - 11
Temperature	20 - 40^{0}C	20 - 40^{0}C
Time	20 min.	-

Softening can be carried out in final rinsing bath by treating with 0.5 - 3%. Softener with antistatic properties.

STRIPPING

Stripping can be carried out by treating in a cold bath containing:

0.25 - 0.5% Potassium permanganate

0.5% Sulphuric acid for 20 minutes

The goods are then treated with

2 - 3% Sodium bisulphite

0.5% Sulphuric acid

at 40^{0}C, followed by neutralization and rinsing.

An after treatment with light hydrogen peroxide is recommended to restore the whiteness and avoid subsequent yellowing.

Note: The usual hygiene and safety rules for handling chemicals should be observed in storage, handling & use. The product must not be swa lowed.

DAZZLE
DYES | WHITENERS | AUXILIARIES

(C.I. No. O.B. 220)

XL WHITE-2BF

FLUORESCENT WHITENING AGENT FOR NATURAL AND REGENERATED CELLULOSIC AND POLYAMIDE FIBRES & PAPER

USES

Versatile product for exhaust and continuous application.

FEATURES

- Liquid, miscible with water in all proportions.
- Moderate affinity.
- Very good stability in hydrogen peroxide and sodium hydrosulphite bleach baths.
- Suitability over wide range of temperature in application.
- Very good stability to hard water, acid and alkali.

BENEFITS

- Easy for direct use, no dusting problem.
- Suitable for continuous application; excellent levelling properties in exhaust application.
- Suitable in bleaching processes and for incorporation in print paste for white discharge.
- Versatility in application; less sensitive to variations in dyeing temperatures.
- Trouble-free application.

PROPERTIES

Chemical constitution : Stilbene disulphonic acid derivative.

Ionic character : Anionic

Specific gravity : About 1.15.

pH (1%) : About 9±.

Shade : Bluish.

Storage stability : Very good (about 12 months) if stored properly, should be kept away from direct sunlight.

DYEING/PRINTING

XL White-2BF liquid is also suitable for enhancing the brightness of pastel shades and for white discharges.

Discharge	Dyeing - Enhancing PastelShade	Printing - White
XL White-2BF	0.1 - 0.4%	1 - 4 g/kg.

LEVELLING/STRIPPING

1 - 2 g/l levelling agent for 20-60 min. at 60-90^{0}C. For a better white effect and to avoid subsequent yellowing, an addition of hydrogen peroxide to the stripping bath is recommended.

XL White-2BF liquid can also be used for rewhitening. Stripping can also be carried out with achlorite bleach.

STABILITY AND COMPATIBILITY

pH : 5.5 - 12

Hard water : Upto 350 ppm $CaCO_3$

Peroxide bleach : Very good

Reduction bleach (Sodium hydrosulphite) : Very good

Alkali : Very good

Acid : Good

Chlorine bleach : Very good

FASTNESS PROPERTIES

	Cellulosic	Polyamide
Light	3 - 4	3
Washing (test 1, 40^{0}C)	5	5
Washing (test 3, 60^{0}C)	4 - 5	4 - 5
Washing (test 4, 95^{0}C)	4	4
Chlorine bleach (mild)	5	-
Chlorine bleach (severe)	4	-
Chlorite (mild)	1	1
Acid	5	5

APPLICATION

SUGGESTED RECIPES

	Exhaust Method		Padding Method	
Ingredient	Without Bleach	With Bleach	Without Bleach	With Bleach
Non-ionic detergent	-	1 - 2 g/l.	-	2 - 4 g/l.
Antisoiling agent	-	0.5 - 1 g/l	-	1 - 2 g/l
Tinoclarite G (peroxide stabilizer)	-	0.5 - 1 g/l	-	3 - 6 ml/l
Hydrogen peroxide (50% v/v)	-	3 - 8 ml/l	-	25 - 50 ml/l.
XL White-2BF liquid	0.2 - 0.8%	02 - 0.8%	2 - 6 g/l.	2 - 6 g/l.
Glauber's salt (anhydrous)	2 - 5 g/l	2 - 5 g/l	2 - 6 g/l.	2 - 6 g/l.
Softening agent (if necessary)	0.5 - 3%	-	10 - 40 g/l	-
Treatment time	30 min.	20 - 120 min.	-	30 min.-24 hrs.
Temperature	40^{0}C	20 - 85^{0}C	40^{0}C	90^{0}C
Washing/washing off*	-	hot and cold	-	hot and cold
Softening agent	-	0.5 - 3%	-	10 - 40 g/l
Wash (if necessary)	-	at 40^{0}C	-	-

*In addition of electrolyte is recommended at high temperature.

The information given in our pattern cards and circulars is based on the present state of our knowledge but any conclusions and recommendations are made without liability on our part. Buyers and users should make their own assessment of our products under their own conditions and for their own requirements.

Note: The usual hygiene and safety rules for handling chemicals should be observed in storage, handling & use. The product must not be swallowed.

(C.I. No. O.B. 253)

XL WHITE-WHN

FLUORESCENT WHITENING AGENT FOR POLYAMIDE, WOOL AND SILK FIBRES

FEATURES

- Brilliant, bluish white effects.
- Very good stability in hydrogen peroxide and sodium dithionite bleach baths.
- Good light fastness.
- Very good washing fastness.
- Excellent levelling properties.

PROPERTIES

- Form : Free flowing yellow powder.
- Chemical constitution : Stilbene-s-triazine derivative.
- Ionic properties : Anionic.
- pH (1%) : About 9.6±
- Shade : Bluish.
- Storage stability : Very good.

DISSOLVING

Exel White-WHN is dissolved by adding 2 - 3 times weight of hot soft water, since it has limited stability to hard water. Concentrated solutions should remain clear even on cooling.

Stock solution should be stored away from light.

FASTNESS PROPERTIES

	Polyamide	Wool	Silk
Light	3	2	2 - 3
Washing: (test 1, 40^{0}C)	5	3	3
Washing: (test 2, 50°^{0}C)	5	3	3
Washing: (test 3, 60^{0}C)	5	-	-
Washing: (test 4, 95^{0}C)	4	-	-
Chlorite bleaching mild	1	-	-
Perspiration, (acid and alkaline)	4 - 5	4	4
Sulphur	-	3	-
Heat 140^{0}C, 9 minutes	4	-	-
Pleating (180^{0}C, 30 seconds)	4	-	-
Gas fumes, nitrogen peroxide	4 - 5	-	-

APPLICATION

1. POLYAMIDE

EXHAUST METHOD

XL White-WHN is preferably applied on polyamide 66by HT method; however it can also be applied to polyamide 6 in open bath systems.

SUGGESTED RECIPE

0.2 - 2%	XL White-WHN5 g/l
	Sodium dithionite
0.5 - 2 g/l	Non-ionic detergent
0.1- 0.5 g/l	Sequestering agent

PROCEDURE

Open bath : 40 - 60 minutes at 95^{0}C

HT : 20 - 30 minutes at 120°-130^{0}C

Softening can be carried out in the final rinsing bath by treating with 0.5 - 3%.
Softener with antistatic properties.

2. WOOL/SILK

SUGGESTED RECIPE

0.1-1% : XL White-WHN

5 g/l : Sodium dithionite for 30-60 min. at 50-60^{0}C.

STRIPPING

Stripping can be carried out with a chlorite bleach.

STABILITY

Hydrogen peroxide : Very good

Sodium dithionite : Very good

Acid : Poor (precipitates)

Alkali : Very good

XL WHITE-PC

FLUORESCENT WHITENING AGENT FOR POLYMIDE, WOOL, SILK AND THEIR BLENDS

FEATURES

- Brilliant neutral white effects.
- Very good suitability in resin finishing of cellulosic & blends due to its high stability to acid, catalyst and other finishing chemicals.
- Stable in alkaline bleach baths containing hydrogen peroxide.

PROPERTIES

- Form : Yellow powder.
- Chemical constitution : Stillbene derivative.
- Ionic properties : Anionic.
- pH (1%) : About 7± .
- Solubility : 2.5 g/l at 50^{0}C.

STABILITY

Hard water : Good
Reducing agents : Good
Hydrogen peroxide : Good
Alkaline bleach baths : Good
pH range 3-12 : Good
Dilute acid and alkalies : Good
Light : Good
Heat : Moderate

APPLICATION

DISSOLVING

XL White-PC is dissolved by adding hot water.

SUGGESTED RECIPE

1. CELLULOSIC

	Exhaust Method	Padding Method	Peroxide Bleach *
XL White-PC	0.02 - 0.05%	0.5 - 1 g/l	0.05 - 0.1%
Glauber's salt calc.	10%		
Temperature	50 - 60^{0}C	30^{0}C	
Stabilizer			0.3 - 0.5 g/l
Caustic soda 66 (TW)			1 - 2 ml/l
Hydrogen peroxide 40%			3 - 6 ml/l
Time	30 min.	-	1 - 2 hrs. at 90^{0}C

* XL White-PC is stable to reducing agents like sodium hydrosulphite. However it is not stable to acidic chlorite and sodium hypochlorite.

RESIN FINISHING

XL White-PC is stable to acid, catalyst as well as the resin finishing temperatures. It is also compatible with the usual ingredients used in resin finishing.

0.5 - 1 g/l XL White-PC is used in the resin finishing bath.

Preliminary trials are necessary since this product is sensitive to heavy metal salts and some of the strong cationic products. Further if zinc nitrate is used as catalyst, a wash off is necessary to avoid yellowing of the optical brightener.

2. POLYAMIDE

XL White-PC is highly suitable for optical brightening for nylon. It can be applied either from a reductive bleach bath or from normal bath.

REDUCTIVE BLEACH BATH

0.05% XL White-PC

2 - 5 g/l hydrosulphite of soda

Enter the goods at 50^{0}C raise to boil in 30 minutes and treat boil for 30 minutes.

Suitable with H.T. method also.

NORMAL BATH

0.2 - 0.5% XL White-PC at pH4
(pH adjustment with acetic acid)

Treat the material at 95^{0}C for 15 - 30 minutes.

3. WOOL & SILK

Goods prebleached in hydrogen peroxide are treated with

0.2 - 0.5% XL White-PC

2 - 5 g/l Reductive bleaching agent

Treat the material at 50° - 60^{0}C for 2 hours.

4. BLENDED GOODS

POLYAMIDE/WOOL

Before the optical brightening, it is necessary to bleach the woollen component. Treat the bleached blend material with

0.5 - 1% XL White-PC

2 - 4 g/l Reductive bleaching agent (hydro)

Treat the material at 50^{0}C for 2 hours.

POLYAMIDE/CELLULOSIC

At low temperature XL White-PC tends to build-up on cellulosic component but when temperature is raised to boil, it tends to build upon polyamide.

0.2 - 0.4 % XL White-PC

2 - 4 g/l Reductive bleaching agent

Start at 60^{0}C raise to 80^{0}C keep for 30 minutes, cool the bath to 50^{0}C. A good tuning effect can be ensured by this method.

XL WHITE-BBU (PDR.)

FLUORESCENT WHITENING AGENT FOR CELLULOSIC FIBERS AND POLYESTER/CELLULOSE BLENDS

XL White BBU Powder Fluorescent whitening agent with bluish violet white shade for cellulosic fibers and polyester / cellulose blends at all stages of processing. Versatile application by continuous and exhaust processes.

Characteristics	**Benefits**
* **Medium affinity**.	* Highly appropriate for exhaust process. Excellent wash fastness, also at high temperature. Very high bath exhaustion: low waste water pollution. * Excellent build-up. * Very high and brilliant white maximum. * High stability to alkali, peroxide and * Designed for discontinuous bleaching electrolyte. systems with hydrogen peroxide. * Very good stability to reducing agents. * Appropriate for reductive discontinuous bleaching. Suitable for incorporation in print pastes for white discharges.

PROPERTIES

Chemical constitution	: Derivative of stilbene disulfonic acid
Ionic character	: Anionic Physical
Form	: Yellow Powder
Bulk Density at 20°C	: About 0.92 g/cm3
Viscosity of solution (D=100/s,25°C)	: < 40 mPa.s
Conductivity of solution (25°C)	: 60 mS/cm
Storage stability	: Stable for 2 years when properly stored in closed containers at 20°C. The product is sensitive to temperatures below 0°C.
pH stability	: pH 5.5–12
Hard water	: Stable up to about 37° Clark (30° German hardness)
Peroxide bleach	: Very good stability
Reduction bleach (sodium dithionite)	: Very good stability
Chlorite bleach	: Not stable
Chlorine bleach	: Not stable
Ecology/toxicology	: The usual hygiene and safety rules for handling chemicals should be observed in storage, handling and use. The product must not be swallowed.

FASTNESS PROPERTIES

Light		ISO 105-B02	2–3
Washing	40°C	ISO 105-C06/A1S	4
	60°C	ISO 105-C06/C1S	3-4
	95°C	ISO 105-C06/E2S	3
Chlorine bleach	mild	ISO 105-N01	4
	severe		3
Chlorite bleach	mild	ISO 105-N03	1
Alkali		ISO 105-E06	4
Acid		ISO 105-E05	4
Perspiration	alkaline	ISO 105-E04	4
	acid		4
Dry heat	30 s/180°C	ISO 105-P01	4

XL WHITE-BBU (PDR.)

FLUORESCENT WHITENING AGENT FOR CELLULOSIC FIBERS AND POLYESTER/CELLULOSE BLENDS

Nitrogen oxides	1 cycle	ISO 105-G04	4
	2 cycles		3–4
Burnt gas fumes	1 cycle	ISO 105-G02	3–4
	2 cycles		3
Ozone	1 cycle	ISO 105-G03	3–4
	2 cycles		3–4

APPLICATIONS

Cellulosic fibers

Exhaust process: From water with addition of electrolyte
In peroxide and reduction bleach
In the peroxide impregnation bleach, in the immersion bleach and in wash-whitening process.

Continuous process: From water, in filled, handle or stiff finishing liquors (pH above 5).

Dissolving/diluting
Miscible in cold and hot water in all proportions.
Stock solutions should be kept away from light. also substrates treated with the whitening agent as long as it is not fixed.

Required amount XL WHITE BBU Powder

CEL
Padding 5-15 g/l
Liquor pickup about 70%

Continuous bleach 5 – 15 g/l
(liquor pick up 80–100%)

Exhaustion 0.5 - 1.5%

Suggested recipes - cellulosic fibers

Continuousbleaching

Cold pad batch	**Pad steam bleach**	
40–60	15–30 ml/l	Hydrogen peroxide 35%
6–12	3–12 ml/l	Sodium silicate 38 °Bé
8–15	3–6 g/l	Sodium hydroxide 100%
Padding		liquor pick-up 90–110%
Temperature range/time 16–24 h		at room temperature (cold pad-batch)
		3–40 min at 100°C (pad-steam)

Concentrations are given for dry-on-wet impregnation. XL WHITE BBU Powder is not suitable in case ofwet-on-wet application.
Due to the medium affinity of XL WHITE BBU Powder, the impregnation should be carried out in conditionsminimizing the risk of tailing (impregnation time as short as possible).

XL WHITE-BBU (PDR.)

FLUORESCENT WHITENING AGENT FOR CELLULOSIC FIBERS AND POLYESTER/CELLULOSE BLENDS

Exhaust Process

The exhaustion of XL WHITE BBU Powder depends on the temperature and electrolyte content.XL WHITE BBU Powder can be applied in combination with the peroxide bleach.

0.5–15 %	XL WHITE BBU Powder
2–5 g/l	Glauber's salt, anhyd.
8–14 ml/l	Hydrogen Peroxide 35%
1.5–3	Sodium hyroxide 100%

Liquor ratio	Liquor ratio 5 : 1 – 20 : 1
Temperature range/ time	- without bleach: 40–80°C for 15–30 min
	- with bleach: 95 –80°C for 30–60 min

If the goods are rinsed at high temperatures after bleaching, an electrolyte addition is recommended.XL WHITE BBU Powder can also be applied in presence of reducing bleaching agents. (stabilized sodium dithionite).

Acid cracking prior to bleach-whitening may improve the whiteness level and reduce damages of cellulosic fibers during bleaching process.
The amount of bleaching chemicals should be reduced in case of regenerated cellulose fibers.

Soft handle finish

5–15 g/l	XL WHITE BBU Powder
Padding	liquor pick-up 60–90%
Drying	110–130°C

Brightening pastel shades

The brightness of pastel shades can be improved in dyeing with

0.3 – 0.75 %	XL WHITE BBU Powder

White discharges

White discharges are usually produced with

5 – 15 g/kg	XL WHITE BBU Powder

Preliminary trials should be carried out owing to the widely different formulations of the print pastes used.

Levelling/stripping

1 – 2 g/l	Scouring Agent
Time/Temperature	20–60 min at 60–90°C

To freshen up the whiteness and avoid subsequent yellowing, hydrogen peroxide or stabilized sodium dithionite should be added.
Re-whitening can be carried out with XL WHITE BBU Powder or other products in the XL WHITE rangewhich are suitable for cellulosic fibers.
XL WHITE BBU Powder can be radically stripped using a sodium chlorite bleach.

Note: The usual hygiene and safety rules for handling chemicals should be observed in storage, handling & use. The product must not be swa lowed.

(C.I. No. O.B. 28)

XL WHITE-4BM

FLUORESCENT WHITENING AGENT FOR DETERGENTS AND CELLULOSIC FIBRES

FEATURES

- ❑ Brilliant neutral white effects.
- ❑ Very good stability in hydrogen peroxide bleach baths.
- ❑ Good fastness to chlorine.

PROPERTIES

- ❑ Form : Pale yellow powder.
- ❑ Ionic properties : Anionic.
- ❑ pH (1%) : About 7 - 11±.

DISSOLVING

XL White-4BM is dissolved by adding 10 - 20 times its weight of hot waterand bringing it briefly to the boil.
If possible with direct steam from steam pipe.
It is then added to the slurry.
The whitener is dispersed evenly throughout the slurry by thorough stirring.

STABILITY

Hydrogen peroxide : Very good
Hard water : Good
Alkali : Good
Chlorine : Poor

APPLICATION

XL White-4BM can be added as a paste to the base detergent or to the slurry before spray drying. It dissolves andmust be distributed uniformly by thorough stirring to ensure the full white effect. As it has excellent heat stability, XL White-4BM is suitable for detergents produced by spray drying.

CONCENTRATION

XL White-4BM should be used in concentration of 0.2 to 0.3% as the weight of dry detergent.

Fastness of the white effect on washed fabrics :

Day light : 3 - 4
Washing: (test 1, 40^0C) : 4 - 5
Washing: (test 3, 60^0C) : 4 - 5
Washing: (test 4, 95^0C) : 4
Water, severe : 4 - 5
Perspiration : 4 - 5
Chlorine bleaching : 4 - 5
Chlorine bleaching mild : 4 - 5
Presence of perborate : 4 - 5

Note: The usual hygiene and safety rules for handling chemicals should be observed in storage, handling & use. The product must not be swa lowed.

(C.I. No. O.B. 71)

XL WHITE-DMX

FLUORESCENT WHITENING AGENT FOR DETERGENTS AND CELLULOSIC FIBRES

FEATURES

- Excellent Whitening effect on Cellulosic fiber at cold to hot water washing conditions between 20^0C and above

PROPERTIES

- Form : Pale yellow powder.
- Ionic properties : Anionic.
- pH 10 gpl solution : About 10.5±1.
- Chemical constitution : Bis (Triazinylamino) Stilbene disulphonic acid derivative.
- Bulk Density : 0.5
- Max. Moisture Content% : 3%
- Active Content by UV : 67.3
- Max. Absorption : 349 NM
- Solubility Distilled Water 98^0C : 5GPL
- Fastness : Ratings (ISO Blue Scale ratings)
  Dry Light Fastness 4-5
  Wet Light fastness 3-4
- Stability : Stability to alkali, perborates, hydrogen peroxide and Tetra acetyl ethylenediamine (TAED) under conditions usually found in house hold and commercial laundering.
  It has excellent to Chlorine Bleach used as an after rinse.

STABILITY

XL White-DMX has good fastness to Chlorine Bleaching when already present on the fibre. A small reduction in brightness occurs when bleaching is carried out in a solution of Sodium Hypochloride (containing about 500ppm of available chlorine). But a noticable reduction in brightness is observed in solutions with higher concentrations of available chlorine but no degradation products are formed. XL White-DMX is not recommended for use where free Chlorine is present in the solution. This is a standard recommendation for all Stilbene Triazine based whiteners.

APPLICATION

XL White-DMX gives an excellent whitening effect on Cellulosic fiber at cold to hot water washing conditions between 20^0C and above

INCORPORATION INTO DETERGENTS

XL White-DMX is suitable for adding to detergents produced by all normal manufacturing methods (Spray drying, Spray blending, Dry mixing etc.) The method of incorporation does not affect performance, however the recommended method is eihter

a) As the final solid ingredient in the crutches or

b) Preslurry in a solution of electrolyte before adding of e.g. 50% Sodium Silicate.

RECOMMENDATIONS

XL White-DMX is recommended at concentrations between 0.1% to 0.25%. The actual level chosen depends on the particular requirements of the user and the local washing conditions.

Note: The usual hygiene and safety rules for handling chemicals should be observed in storage, handling & use. The product must not be swallowed.