### OPTICAL BRIGHTENERS  C.I.NO.  USES

| 2. Dazzle White HI             | ___ | Reddish Fluorescent Whitening agent for Natural & Regenerated Cellulosic fibres. |
| 5. Dazzle White WHN            | 253| Fluorescent Whitening agent for Polyamide / Wool / Silk & their Blends. |
FEATURES
- Brilliant bluish white effects.
- Very good stability in hydrogen peroxide and sodium dithionate 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.

EXHAUST METHOD/BLEACHING
Dazzle 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% Dazzle 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% softerner

LEVELLING/STRIPPING
1-2 g/l 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. Stripping can be carried out with a chlorite bleach.

STABILITY
Hydrogen peroxide bleach bath
Hydrogen peroxide continuous bleach
Hypochlorite bleach bath, mild
Reduction bleach bath, mild
Reduction bleach bath (Based on sodium dithionite)
Acid baths
Alkaline baths

FABRIC PROPERTIES

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

*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 recommend 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)

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Note: The usual hygiene and safety rules for handling chemicals should be observed in storage, handling & use. The product must not be swallowed.
**FEATUES**
- 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**
Dazzle White-HI is dissolved by adding 5-10 times its 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**

<table>
<thead>
<tr>
<th></th>
<th>Exhaust Method</th>
<th>Padding Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dazzle White-HI</td>
<td>0.025 - 0.25%</td>
<td>0.2 - 2.0 g/l</td>
</tr>
<tr>
<td>Glauber’s salt</td>
<td>2.5 g/l</td>
<td></td>
</tr>
<tr>
<td>(anhydrous)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>50°C</td>
<td>25°C</td>
</tr>
<tr>
<td>Time</td>
<td>20 min</td>
<td></td>
</tr>
</tbody>
</table>

**SOFTWARE AND OPTICAL BRIGHTENING IN ONE BATH**

<table>
<thead>
<tr>
<th></th>
<th>Exhaust Method</th>
<th>Padding Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dazzle White-HI</td>
<td>0.025 - 0.25%</td>
<td>0.2 - 2.0 g/l</td>
</tr>
<tr>
<td>Glauber’s salt</td>
<td>2.5 g/l</td>
<td></td>
</tr>
<tr>
<td>(anhydrous)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Softener with antistatic properties</td>
<td>0.5 - 3%</td>
<td>10 - 30 g/l</td>
</tr>
<tr>
<td>Temperature</td>
<td>50°C</td>
<td>25°C</td>
</tr>
<tr>
<td>Time</td>
<td>20 min</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>5-6</td>
<td>5-6</td>
</tr>
</tbody>
</table>

**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°C, followed by neutralization and rinsing.
An after treatment with light hydrogen peroxide is recommended to restore the whiteness and avoid subsequent yellowing.

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**Note:** The usual hygiene and safety rules for handling chemicals should be observed in storage, handling & use. The product must not be swallowed.
DAZZLE 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: Stilbene 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
Dazzle White-BVN is dissolved by adding 5-10 times its weight 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 Dazzle White-BVN at all stages of manufacturing either by exhaust or by padding method.

SUGGESTED RECIPE

<table>
<thead>
<tr>
<th>Dazzle White-BVN</th>
<th>Exhaust Method</th>
<th>Padding Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.05 - 1.0%</td>
<td>0.2 - 3.5 g/l</td>
</tr>
<tr>
<td>Glauber’s salt</td>
<td>2 - 5 g/l</td>
<td>-</td>
</tr>
<tr>
<td>(anhydrous)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH (adjusted, if necessary, with ammonia or soda ash)</td>
<td>8 - 11</td>
<td>8 - 11</td>
</tr>
<tr>
<td>Temperature</td>
<td>20 - 40°C</td>
<td>20 - 40°C</td>
</tr>
<tr>
<td>Time</td>
<td>20 min.</td>
<td>-</td>
</tr>
</tbody>
</table>

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°C, followed by neutralization and rinsing.

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

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

APPLICATION
SUGGESTED RECIPES

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Without Bleach</th>
<th>With Bleach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-ionic detergent</td>
<td>-</td>
<td>1 - 2 g/l.</td>
</tr>
<tr>
<td>Antisoling agent</td>
<td>-</td>
<td>0.5 - 1 g/l</td>
</tr>
<tr>
<td>Tinoclarte G (peroxide stabilizer)</td>
<td>-</td>
<td>0.5 - 1 g/l</td>
</tr>
<tr>
<td>Hydrogen peroxide (50% v/v)</td>
<td>3 - 8 ml/l</td>
<td></td>
</tr>
<tr>
<td>Dazzle White-2BF liquid</td>
<td>0.2 - 0.8%</td>
<td>02 - 0.8%</td>
</tr>
<tr>
<td>Glauber’s salt (anhydrous)</td>
<td>2 - 5 g/l</td>
<td>2 - 5 g/l</td>
</tr>
<tr>
<td>Softening agent (if necessary)</td>
<td>0.5 - 3%</td>
<td></td>
</tr>
<tr>
<td>Treatment time</td>
<td>30 min.</td>
<td>20 - 120 min.</td>
</tr>
<tr>
<td>Temperature</td>
<td>40°C</td>
<td>20 - 85°C</td>
</tr>
<tr>
<td>Wash (if necessary)</td>
<td>-</td>
<td>10 - 40 g/l</td>
</tr>
</tbody>
</table>

*In addition of electrolyte is recommended at high temperature.

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

APPLICATION
1. POLYAMIDE
   EXHAUST METHOD
   Dazzle White-WHN is preferably applied on polyamide 66 by HT method; however it can also be applied to polyamide 6 in open bath systems.
   SUGGESTED RECIPE
   0.2 - 2% Dazzle White-WHN
   5 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°C
   HT : 20 - 30 minutes at 120°-130°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% : Dazzle White-WHN
   5 g/l : Sodium dithionite for 30-60 min. at 50-60°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

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.

DISSOLVING

FASTNESS PROPERTIES

<table>
<thead>
<tr>
<th></th>
<th>Polyamide</th>
<th>Wool</th>
<th>Silk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>3</td>
<td>2</td>
<td>2 - 3</td>
</tr>
<tr>
<td>Washing: (test 1, 40°C)</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Washing: (test 2, 50°C)</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Washing: (test 3, 60°C)</td>
<td>5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Washing: (test 4, 95°C)</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Chlorine bleaching mild</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Perspiration, (acid and alkaline)</td>
<td>4 - 5</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Sulphur</td>
<td>3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Heat 140°C, 9 minutes</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pleating (180°C, 30 seconds)</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gas fumes, nitrogen peroxide</td>
<td>4 - 5</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
DAZZLE WHITE-PC
FLUORESCENT WHITENING AGENT FOR POLYIMIDE, 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 7.5.
- Solubility: 2.5 g/l at 50°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
Dazzle White-PC is dissolved by adding hot water.

SUGGESTED RECIPE

1. CELLULOSE

<table>
<thead>
<tr>
<th>Dazzle White-PC</th>
<th>Exhaust Method</th>
<th>Padding Method</th>
<th>Peroxide Bleach</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.02 - 0.05%</td>
<td>0.5 - 1 g/l</td>
<td>0.05 - 0.1%</td>
</tr>
<tr>
<td>Glauber’s salt calc.</td>
<td>10%</td>
<td>30°C</td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>50 - 60°C</td>
<td>0.3 - 0.5 g/l</td>
<td></td>
</tr>
<tr>
<td>Stabilizer</td>
<td>1 - 2 ml/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caustic soda 66 (TW)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrogen peroxide 40%</td>
<td>3 - 6 ml/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>30 min.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

REINFINISHING
Dazzle 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 Dazzle 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
Dazzle 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% Dazzle White-PC
2 - 5 g/l hydrosulphite of soda
Enter the goods at 50°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% Dazzle White-PC at pH4
(pH adjustment with acetic acid)
Treat the material at 95°C for 15 - 30 minutes.

3. WOOL & SILK
Goods prebleached in hydrogen peroxide are treated with
0.2 - 0.5% Dazzle White-PC
2 - 5 g/l Reductive bleaching agent
Treat the material at 50° - 60°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% Dazzle White-PC
2 - 4 g/l Reductive bleaching agent (hydro)
Treat the material at 50°C for 2 hours.

POLYAMIDE/CELLULOSETIC
At low temperature Dazzle 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 % Dazzle White-PC
2 - 4 g/l Reductive bleaching agent
Start at 60°C raise to 80°C keep for 30 minutes, cool the bath to 50°C. A good tuning effect can be ensured by this method.

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

**Benefits**
- 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.
- Suitable for incorporation in print pastes for white discharges.

**PROPERTIES**

<table>
<thead>
<tr>
<th>Chemical constitution</th>
<th>Derivative of stilbene disulfonic acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ionic character</td>
<td>Anionic Physical</td>
</tr>
<tr>
<td>Form</td>
<td>Yellow Powder</td>
</tr>
<tr>
<td>Bulk Density at 20°C</td>
<td>About 0.92 g/cm²</td>
</tr>
<tr>
<td>Viscosity of solution (D=100/s,25°C):</td>
<td>&lt; 40 mPa.s</td>
</tr>
<tr>
<td>Conductivity of solution (25°C)</td>
<td>60 mS/cm</td>
</tr>
<tr>
<td>Storage stability</td>
<td>Stable for 2 years when properly stored in closed containers at 20°C.</td>
</tr>
<tr>
<td>pH stability</td>
<td>pH 5.5–12</td>
</tr>
<tr>
<td>Hard water</td>
<td>Stable up to about 37° Clark (30° German hardness)</td>
</tr>
<tr>
<td>Peroxide bleach</td>
<td>Very good stability</td>
</tr>
<tr>
<td>Reduction bleach (sodium dithionite):</td>
<td>Very good stability</td>
</tr>
<tr>
<td>Chlorite bleach</td>
<td>Not stable</td>
</tr>
<tr>
<td>Chlorine bleach</td>
<td>Not stable</td>
</tr>
<tr>
<td>Ecology/toxicology</td>
<td>The usual hygiene and safety rules for handling chemicals should be observed in storage, handling and use. The product must not be swallowed.</td>
</tr>
</tbody>
</table>

**FASTNESS PROPERTIES**

<table>
<thead>
<tr>
<th>Light</th>
<th>ISO 105-B02</th>
<th>2–3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40°C</td>
<td>ISO 105-C06/A1S</td>
<td>4</td>
</tr>
<tr>
<td>60°C</td>
<td>ISO 105-C06/C1S</td>
<td>3-4</td>
</tr>
<tr>
<td>95°C</td>
<td>ISO 105-C06/E2S</td>
<td>3</td>
</tr>
<tr>
<td>Chlorine bleach</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mild</td>
<td>ISO 105-N01</td>
<td>4</td>
</tr>
<tr>
<td>severe</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Chlorite bleach</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mild</td>
<td>ISO 105-N03</td>
<td>1</td>
</tr>
<tr>
<td>Alkali</td>
<td>ISO 105-E06</td>
<td>4</td>
</tr>
<tr>
<td>Acid</td>
<td>ISO 105-E05</td>
<td>4</td>
</tr>
<tr>
<td>Perspiration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>alkaline</td>
<td>ISO 105-E04</td>
<td>4</td>
</tr>
<tr>
<td>acid</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Dry heat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 s/180°C</td>
<td>ISO 105-P01</td>
<td>4</td>
</tr>
</tbody>
</table>
DAZZLE WHITE-BBU (PDR.)

FLUORESCENT WHITENING AGENT FOR CELLULOSEC FIBERS AND POLYESTER/CELLULOSE BLENDS

<table>
<thead>
<tr>
<th>Nitrogen oxides</th>
<th>1 cycle</th>
<th>ISO 105-G04</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2 cycles</td>
<td></td>
<td>3–4</td>
</tr>
<tr>
<td>Burnt gas fumes</td>
<td>1 cycle</td>
<td>ISO 105-G02</td>
<td>3–4</td>
</tr>
<tr>
<td></td>
<td>2 cycles</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Ozone</td>
<td>1 cycle</td>
<td>ISO 105-G03</td>
<td>3–4</td>
</tr>
<tr>
<td></td>
<td>2 cycles</td>
<td></td>
<td>3–4</td>
</tr>
</tbody>
</table>

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

DAZZLE 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

**Continuous bleaching**

<table>
<thead>
<tr>
<th>Cold pad batch</th>
<th>Pad steam bleach</th>
</tr>
</thead>
<tbody>
<tr>
<td>40–60</td>
<td>15–30 ml/l</td>
</tr>
<tr>
<td>6–12</td>
<td>3–12 ml/l</td>
</tr>
<tr>
<td>8–15</td>
<td>3–6 g/l</td>
</tr>
<tr>
<td>Padding</td>
<td>liquor pick-up 90–110%</td>
</tr>
<tr>
<td>Temperature range/time</td>
<td>at room temperature (cold pad-batch)</td>
</tr>
<tr>
<td>16–24 h</td>
<td>3–40 min at 100°C (pad-steam)</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5–15%</td>
<td>DAZZLE WHITE BBU Powder</td>
</tr>
<tr>
<td>2–5 g/l</td>
<td>Glauber’s salt, anhyd.</td>
</tr>
<tr>
<td>8–14 ml/l</td>
<td>Hydrogen Peroxide 35%</td>
</tr>
<tr>
<td>1.5–3</td>
<td>Sodium hyroxide 100%</td>
</tr>
</tbody>
</table>

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. DAZZLE 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 DAZZLE 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% DAZZLE WHITE BBU Powder

**White discharges**

White discharges are usually produced with  
5 – 15 g/kg DAZZLE 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 DAZZLE WHITE BBU Powder or other products in the DAZZLE WHITE range which are suitable for cellulosic fibers.  
DAZZLE WHITE BBU Powder can be radically stripped using a sodium chlorite bleach.
DAZZLE 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
Dazzle White-4BM is dissolved by adding 10 - 20 times its weight of hot water and 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
Dazzle White-4BM can be added as a paste to the base detergent or to the slurry before spray drying. It dissolves and must be distributed uniformly by thorough stirring to ensure the full white effect. As it has excellent heat stability, Dazzle White-4BM is suitable for detergents produced by spray drying.

CONCENTRATION
Dazzle 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°C): 4 - 5
- Washing: (test 3, 60°C): 4 - 5
- Washing: (test 4, 95°C): 4
- Water, severe: 4 - 5
- Perspiration: 4 - 5
- Chlorine bleaching: 4 - 5
- Chlorine bleaching mild: 4 - 5
- Presence of perborate: 4 - 5

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.
DAZZLEWHITE-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°C and above

PROPERTIES
- Form: Pale yellow powder.
- Ionic properties: Anionic.
- pH 10 gpl solution: About 10.5±1.
- Chemical constitution: Bis (Triazinylamino) Stibene 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°C: 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
Dazzlewhite-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. Dazzlewhite-DMX is not recommended for use where free Chlorine is present in the solution. This is a standard recommendation for all Stibene Triazine based whiteners.

APPLICATION
Dazzlewhite-DMX gives an excellent whitening effect on Cellulosic fiber at cold to hot water washing conditions between 20°C and above

INCORPORATION INTO DETERGENTS
Dazzlewhite-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 either
- 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
Dazzlewhite-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.

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