A fluorescent brightener for polyester fibers and their blends
Ultraphor® SFG Liquid

Nature
Styrylbenzene derivative, nonionic

Physical Form
Slightly yellowish liquid dispersion

Storage
When stored in the original sealed containers at temperatures between 32°F and 90°F, the product has a shelf life of at least 24 months. Once containers have been opened, the contents should be used up quickly. Containers should be tightly closed after each use.

Properties

Solubility
Miscible with water in all proportions.

pH
(1% solution): ~7.5

Density
specific gravity ~1.06 (~ 8.84 lbs. per gallon)

Action
Ultraphor SFG Liquid has the unique property, unlike many other polyester optical brightening agents, of contributing brightness in both visible and UV spectrums. For this reason, evaluation of this product should be conducted under daylight lamp (D 65) or a natural daylight situation (at a window facing north) in order to realize the full value of it’s contribution to total whiteness.

Application
Solutions of the product, and the fabric that has been padded and dried but not fixed, must be protected from light.

Good affinity at the boil, without a carrier, up to a concentration of 0.8%

The degree of white is not influenced by the pH over the range 2 - 12.
Ultraphor® SFG Liquid

Stable in hydrogen peroxide and sodium hypochlorite bleaching liquors, and also in reductive bleaching liquors.

Ultraphor SFG liquid is less suitable for brightening cellulose acetate, cotton, and nylon.

Guideline recipes

HT process

<table>
<thead>
<tr>
<th>Concentration (%)</th>
<th>Component</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1 – 1.25</td>
<td>Ultraphor SFG</td>
<td></td>
</tr>
<tr>
<td>1.0 g/l</td>
<td>Basol WS</td>
<td></td>
</tr>
</tbody>
</table>

pH: 5 - 5.5 with acetic acid
Liquor ratio: 5:1 – 20:1
Starting temperature: 50°C - 60°C
Heat to 130°C in 30 min., then treat 15 - 30 min. at 130°C

The use of Basol WS is important in the fluorescent brightening of wound packages.

Carrier process

<table>
<thead>
<tr>
<th>Concentration (%)</th>
<th>Component</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1 – 1.25</td>
<td>Ultraphor SFG</td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>carrier, as recommended by manufacturer</td>
<td></td>
</tr>
<tr>
<td>0.5 - 1.0 g/l</td>
<td>Basol WS</td>
<td></td>
</tr>
</tbody>
</table>

pH: 4.5-5.5 with acetic acid
Liquor ratio: 5:1 - 20:1
Temperature: 98°C - 105°C
Time: 45 - 60 min.

Single stage bleaching and brightening of PES/Co blends

<table>
<thead>
<tr>
<th>Component</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultraphor SFG</td>
<td></td>
</tr>
<tr>
<td>6 ml/l hydrogen peroxide 35%</td>
<td></td>
</tr>
<tr>
<td>1 g/l sodium hydroxide</td>
<td></td>
</tr>
<tr>
<td>0.3 g/l Kieralon N-CD</td>
<td></td>
</tr>
<tr>
<td>1 g/l Prestogen N-D</td>
<td></td>
</tr>
<tr>
<td>0.5 g/l Palegal N-SF</td>
<td></td>
</tr>
</tbody>
</table>

Liquor ratio: 10:1 - 20:1
60 min. at 95°C – 98°C
Dry and thermosol in one operation: 30 s at 180°C
**Ultraphor® SFG Liquid**

**Single stage**

- 0.1 – 0.8 % Ultraphor SFG
- 0.5 g/l Palegal N-SF
- 2 g/l Lufibrol MSD
- 0.3 g/l Kieralon N-CD

Liquor ratio: 10:1 - 20:1

60 min at 95°C – 98°C

Dry and thermosol in one operation: 30s at 180°C

**Thermosol process**

- 1 – 15 g/l Ultraphor SFG

Liquor pick-up: approx. 65%

Dry

Thermosol at 170°C - 190°C

Time: 30 sec.

**Curing process**

- Shirting fabric (PES/Co 67/33)

- 40-60 g/l Fixapret CL
- 20 g/l Siligen VN
- 1-15 g/l Ultraphor SFG Liquid
- 0.5 g/l Kieralon Jet B Conc.
- 10-15 g/l Catalyst MC.

pH: to 4.5

Liquor pick-up: 60-70 %

Dry

Fix and cure: 4 min at 150°C

**Note**

As with all dispersions, the contents of the drum should be properly stirred before use.
# Ultraphor® SFG Liquid

## Fastness properties

The following fastness data apply for Polyester at the optimum Standard of white, and refer to the change in the white effect.

<table>
<thead>
<tr>
<th>Fastness to</th>
<th>Ultraphor SFG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light (Xenotest) DIN 54 004</td>
<td>5 – 6</td>
</tr>
<tr>
<td>Washing, 40°C DIN 54 014</td>
<td>5</td>
</tr>
<tr>
<td>Washing, 60°C DIN 54 010</td>
<td>5</td>
</tr>
<tr>
<td>Sea Water DIN 54 007</td>
<td>5</td>
</tr>
<tr>
<td>Perspiration DIN 54 020</td>
<td></td>
</tr>
<tr>
<td>Alkaline</td>
<td>5</td>
</tr>
<tr>
<td>Acid</td>
<td>5</td>
</tr>
<tr>
<td>Dry cleaning DIN 54 024</td>
<td>5</td>
</tr>
<tr>
<td>Dry heat pleating and setting 180°C</td>
<td>5</td>
</tr>
<tr>
<td>210°C</td>
<td>5</td>
</tr>
<tr>
<td>Oxides of nitrogen DIN 54 025</td>
<td>5</td>
</tr>
</tbody>
</table>
Ultraphor® SFG Liquid

Safety

When using this product, the information and advice given in our Safety Data Sheet should be observed. Due attention should also be given to the precautions necessary for handling chemicals.

We know of no ill effects that could have resulted from using Ultraphor® SFG Liquid for the purpose for which it is intended and from processing it in accordance with current practice.

According to the experience that we have gained over many years and other information at our disposal, Ultraphor® SFG Liquid does not exert any harmful effects on health, provided that it is used properly, due attention is given to the precautions necessary for handling chemicals, and the information and advice given in our Material Safety Data Sheet are observed.

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Note: Material Safety Data Sheet is available upon request.

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