

Paper Business

Leucophor[®] SHR liquid

Technical Product Information



Exactly your chemistry.

**A brilliant high white optical brightener for use
at the size press or in coatings.**

Creating Value in a World of Paper

www.paper.clariant.com

This surface treatment brightener with a slightly red hue is capable of producing extremely high whiteness papers. **Leucophor SHR liquid** sets new maximum whiteness limits when used at the size press and achieves very high whiteness levels when applied as part of a coating slip, particularly those containing starch, CMC or PVOH as a secondary binder.

Leucophor SHR liquid is a hexa sulphonated stilbene brightener which is readily dilutable with water in all proportions and exhibits very good stability to acid, alkali and hard water conditions. It may be used continuously or batchwise as required and is compatible with most anionic and nonionic products. Compatibility with cationic products may vary and should be determined in preliminary trials.

Typical properties

Appearance	Clear yellow brown liquid
Chemical Character	Anionic stilbene derivative
Density (20°C)	1.23kg/l 1 l = 1.23 kg 1 kg = 0.813 l
Viscosity	(Brookfield digital viscometer - Model DV-II) spindle 3
- (20°C)	- < 50 cps
- (0°C)	- < 200 cps
pH (as supplied)	8.0 – 10.0
Solidification Point	-12 °C
Storage Stability	Stable for up to 12 months at temperatures less than 40°C protected from light

1. Application in the stock

Leucophor SHR liquid has a low substantivity when applied at the wet end and is therefore not recommended for application to the stock. Products recommended for stock application include the Leucophor A and U range of OBAs.

2. Application at the size press (Fig. 1)

Leucophor SHR liquid is especially recommended for use at the size press and particularly on wood-free grades and grades with only low levels of high-yield pulp. The highest levels of whiteness are achieved when applied from size press solutions containing starch, carboxymethyl cellulose, polyvinyl alcohol or similar binders or sizing agents. Compatibility with cationic components should be determined during the initial trials.

The normal dosage level is between 15 and 40 g/l based on the size press liquor. Experience has shown that the desired degree of whiteness is most economically obtained by combined application of the Leucophor A or U range of liquids in the stock with **Leucophor SHR liquid** in the size-press, as well as the addition of shading dyes in the stock. Recommended products for this purpose include Cartasol® Blue 3RF liquid, Cartasol Blue 3R-EU liquid, Cartasol Violet 3BF liquid and Cartasol Brilliant Violet 5BFN liquid.

Paper grade: 75 g/m² neutral sized, Pick-up of 5% starch solution 8 g/m²

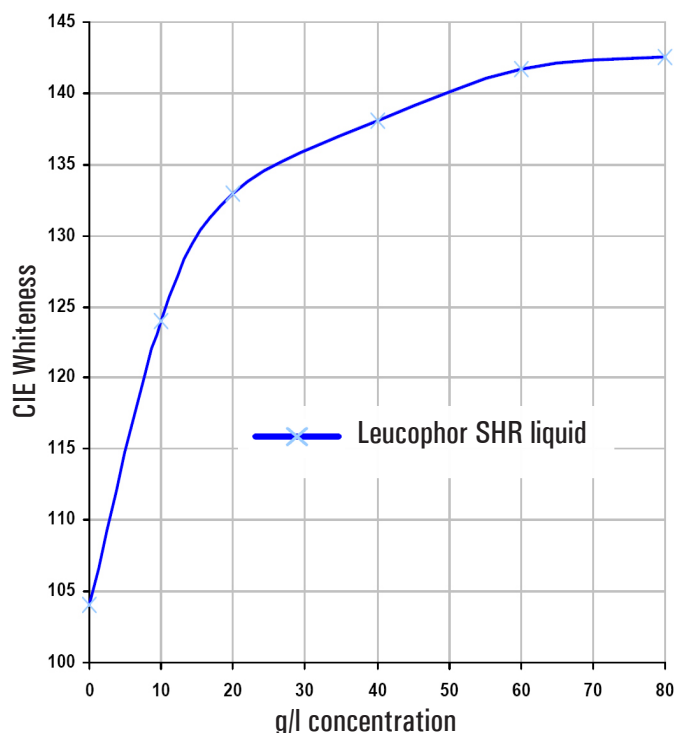
3. Application in a coating slip (Fig. 2)

Leucophor SHR liquid produces excellent high whiteness levels especially when used in coating slips containing starch, carboxymethyl cellulose, casein, polyvinyl alcohol or similar binder systems.

The normal dosage level is between 0.5 and 4% on the weight of dry pigment. The most reliable results are obtained when **Leucophor SHR liquid** is added as the last ingredient to the coating slip and provided that good mixing is available, it can be added un-diluted.

Coating weight 15 g/m² on unbrightened base paper
Coating slip consisting of :100 parts Carbonate, 5 parts Starch and 10 parts Latex

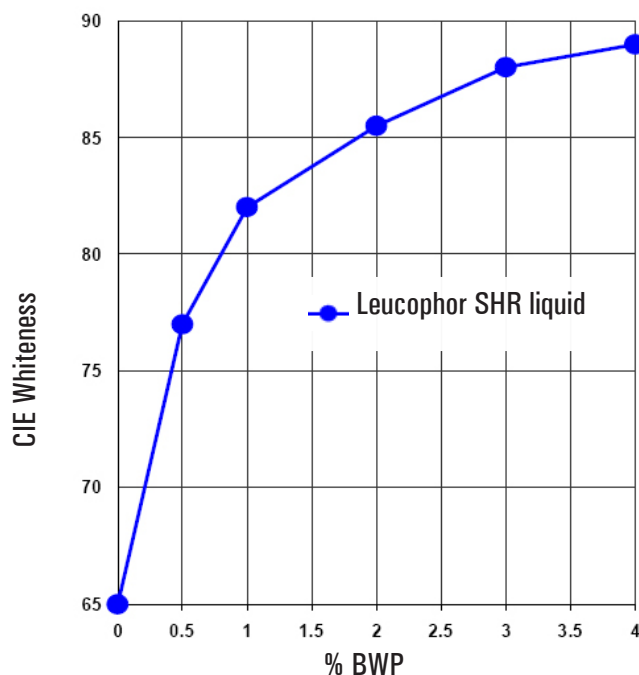
Fig. 1



Degree of whiteness formula (ISO 105-J02):

$$W10 = Y_{10} + 800 (0.3138 \cdot x_{10}) + 1700 (0.3310 \cdot y_{10})$$

Fig. 2



Degree of whiteness formula (ISO 105-J02):

$$W10 = Y_{10} + 800 (0.3138 \cdot x_{10}) + 1700 (0.3310 \cdot y_{10})$$

4. General information

When required, **Leucophor SHR liquid** can be readily quenched with Cartarex[®] 2L liquid. In cases where the fluorescence must be almost completely removed, Cartarex NT liquid may be required.

A material safety data sheet is available from your local Clariant representative.

www.paper.clariant.com

Europe

Clariant International Ltd
TechCenter Reinach (B03.22)
Rothausstrasse 61
CH-4132
Muttenz 1
Switzerland
Tel: +800 128 72737
Tel: +41 61 469 7218
Email: paper@clariant.com
Email Austria: paper.austria@clariant.com
Email Germany: info.papier@clariant.com

Latin America

Clariant S.A.
Av. Nações Unidas 18.001
04795 – 900 São Paulo
Brazil
Tel: +55 11 5683 7509
Email: paper.brazil@clariant.com

Asia

Clariant Chemicals (China) Ltd
1-3/F, Block No. 25
No. 69 GuiQing Road
Shanghai 200233
China
Tel : +86 21 6485 1000
Email: paper.china@clariant.com

North America

Clariant Corporation
4000 Monroe Road
Charlotte
NC28205
USA
Tel North America: 800 727 3710
Email: paperexpert@clariant.com



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PA.101616.0109

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