

Q.P.

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISION DE NUEVAS CREACIONES

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SOLICITUD
PATENTE DE INVENCION

EXPEDIENTE N°

06-83376

TITULO

Soluciones Concentradas de
Amplificadores opticos

CLASIFICACION INTERNACIONAL

COD 251/68

D2111 2130

SOLICITANTE

Clarent Finance (BVI) Limited

DOMICILIO

Tortola, Islas Virgenes Britanicas

APODERADO

DILIA MARÍA RODRÍGUEZ D ALEMAN

Bogota

Agosto 23 de 2006

Fecha de presentacion

CLARKE, MODET & CO COLOMBIA LTDA

Pode Cero

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**FORMULARIO ÚNICO DE SOLICITUD DE
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1) SOLICITUD DE:

☒ Patente de invención ☐ Patente de Modelo de Utilidad

☐ Capitulo I. ☒ Capitulo II.

**2)
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(71)**

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Islas Vírgenes Británicas

Lugar de constitución: Islas
Vírgenes Británicas

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C.C. ☐ NIT: ☐

C.E. ☐ OTRO ☐

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Nacionalidad o Domicilio: Inglés

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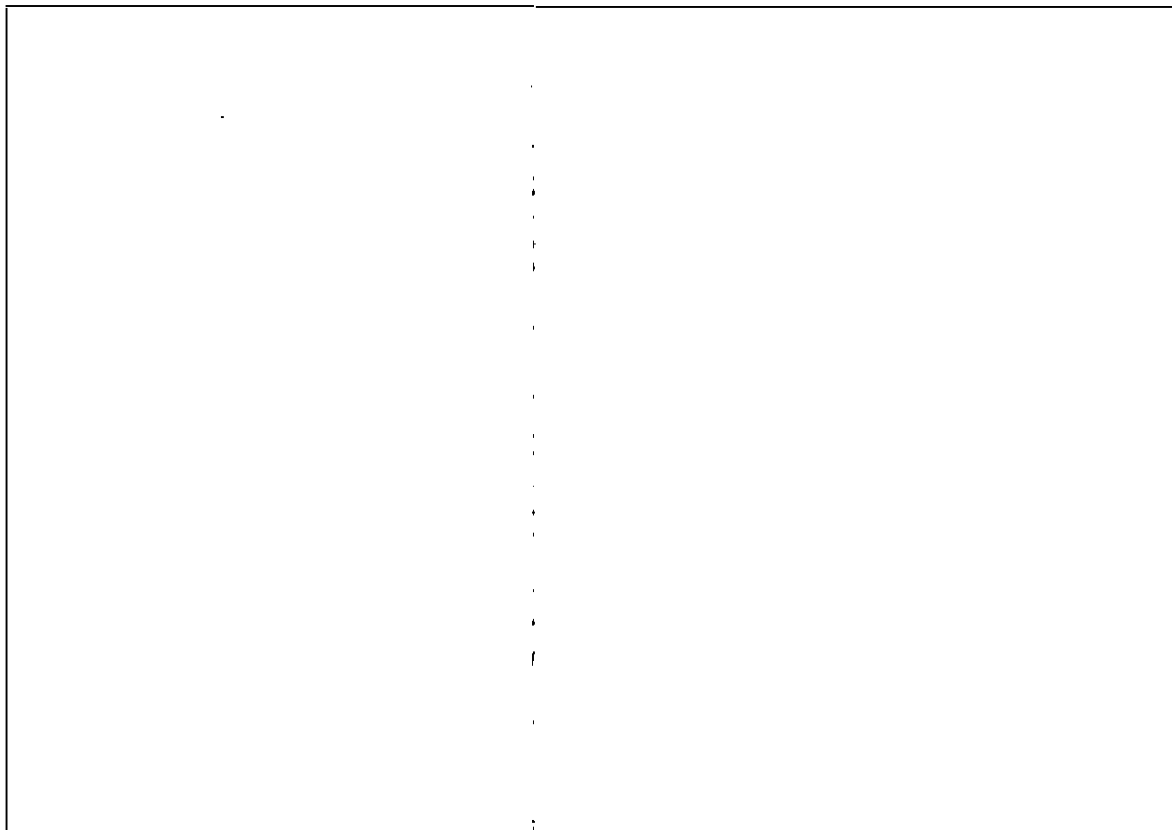
Instrucciones para el diligenciamiento del presente formulario. Ver reverso de esta pagina

10)

ANEXOS

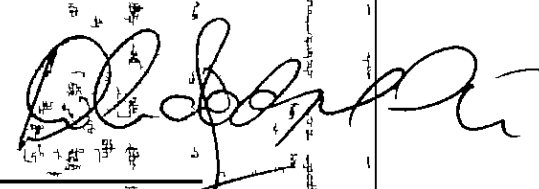
- ☒ Comprobante de pago de la tasa de presentación de la solicitud
- ☐ Comprobante de pago por reivindicación de prioridad
- ☐ Documento que acredite la existencia y representación legal cuando el solicitante sea persona Jurídica
- ☐ Poderes, si fuera el caso
- ☐ Documento de cesión del inventor al solicitante o a su causante
- ☐ Declaraciones
- ☒ Copia de la solicitud Internacional. (Resumen, descripción, reivindicación, Dibujos).
- ☒ Traducción de la solicitud internacional al castellano. (Resumen, descripción, reivindicación, Dibujos)
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- ☐ Arte final 12 x 12 y 6 x 6 cm
- ☐ De ser el caso, información sobre otras solicitudes de patente o títulos obtenidos en el extranjero por el mismo titular o su causante, relacionados parcial o totalmente con la invención de esta solicitud.
- ☒ Otros:
1. Reporte internacional de búsqueda
 2. Notificación de la transmisión del reporte preliminar
 3. Notificación del cambio
 4. Notificación de la transmisión del documento de prioridad

11) FIGURA CARACTERÍSTICA:



12) Solicitud concesión de la patente

NOMBRE DILIA RODRÍGUEZ D ALEMAN

FIRMA 

C.C. 41 654 882 de Bogotá TP 20824 CSJ

Instrucciones para el diligenciamiento del presente formulario. Ver reverso de esta pagina

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
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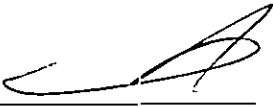
***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	Nº. PAGO	FECHA PGO	Vr. PAGO
CLARKE MODET Y CO. COLOMB	CONSIGNACION	BANCO POPULAR	050-00110-6	48145594	31/07/2006	9,414,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-01	SOLICITUDES	1
		TRAMITES DE SOL. DE PATENTE DE IN	463,000.00
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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, GU, HK, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

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(54) Title: CONCENTRATED OPTICAL BRIGHTENER SOLUTIONS

(57) Abstract: The instant invention relates to concentrated aqueous solutions of hexasulphonated stilbene optical brighteners which are storage-stable in the absence of solubilizing agents like urea. By removal of salts resulting from the preparation of the optical brightener one can obtain a concentration of up to 0.350 mol/kg without losing storage stability. The reduced water content enables coating compositions which require less drying energy and which show less water and binder migration into the paper.

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CONCENTRATED OPTICAL BRIGHTENER SOLUTIONS

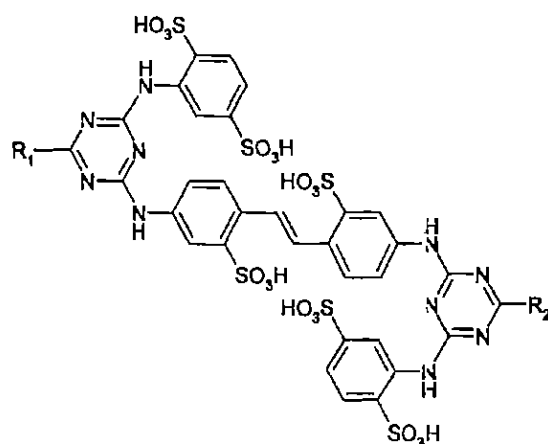
- 5 The instant invention relates to concentrated aqueous solutions of hexasulphonated stilbene optical brighteners which are storage-stable in the absence of solubilizing agents like urea.

PRIOR ART

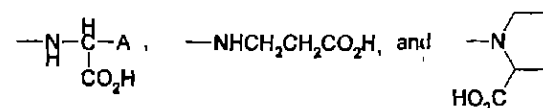
- 10 Hexasulphonated stilbene optical brightening agents (OBAs) are a well-established means of producing coated papers with a high degree of whiteness. Such optical brighteners are most conveniently marketed and used in the form of aqueous solutions.

Japanese Kokai 62-106965 discloses an optical brightener, or a salt thereof,

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In which R₁ and R₂ each independently represents a group selected from



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and A represents a group selected from a hydrogen atom, an alkyl group having from 1 to 4 carbon atoms, which may have a side chain, a hydroxymethyl group, a

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hydroxyethyl group, a methylthioethyl group, a benzyl group, a carboxymethyl group and a carboxyethyl group.

5 According to the Kokai, said optical brighteners have a very high solubility in water and can be commercialized in the form of a thick solution after removing the sodium chloride produced in the reaction and concentrating the water content by an appropriate method. The optical brighteners are claimed to be very effective for the whitening of paper in a surface treatment.

10 Each example of the Kokai describes the preparation of an optical brightener which is desalinated by ultrafiltration to give a thick solution. Supposing that in Example 1 the reaction of the starting compounds gives a 100% yield of said optical brightener then the maximal concentration in said thick solution would be 0.214 mol/kg (30-32%). Each solution is then rendered storage-stable by the addition of 10% urea.

15 This document therefore teaches that aqueous solutions of said optical brighteners are unstable at concentrations equal to 0.214 mol/kg (30-32%) without the addition of urea.

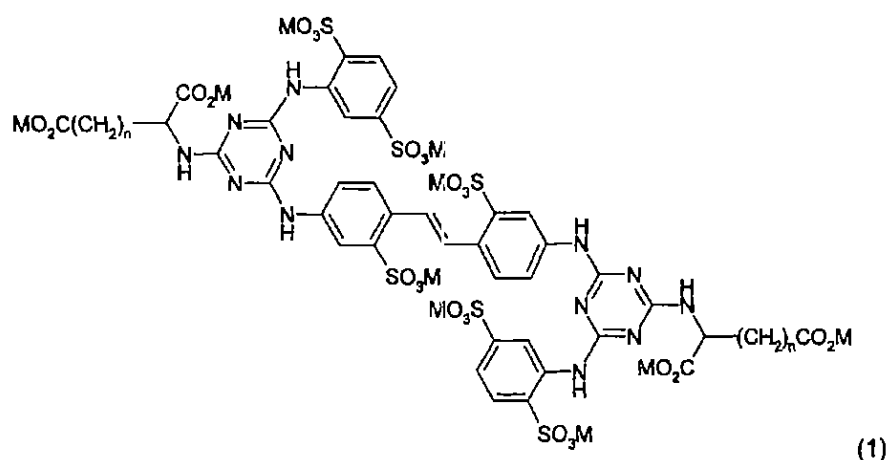
20 There is however a demand for more concentrated aqueous solutions of optical brighteners. The concentration of the aqueous solution is of particular significance when the brightener is applied in a pigmented coating composition; it is well-known that papermakers aim to minimise the water-content of the coating composition in order to minimise drying energy and to minimise water and binder migration into the base paper. (See, for example, 'The Essential Guide to Aqueous Coating of Paper and Board', ed. T. W. R. Dean, PITA, 1997.)

DESCRIPTION OF THE INVENTION

30 Surprisingly and in contrast to the teaching of said Japanese document it has now been found that certain of these hexasulphonated stilbene OBAs can be prepared in the form of highly concentrated aqueous solutions that are storage-stable at concentrations of up to 0.350 mol/kg (about 54% by weight). When applied to the surface of paper in either a pigmented coating composition or in the size-press these aqueous solutions provide superior fluorescent whitening effects.

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An object of the present invention therefore is a storage-stable aqueous solution comprising an optical brightener of formula (1)



5

wherein

M is hydrogen, an alkali metal cation, ammonium, or ammonium which is mono-, di- or trisubstituted by a C₂-C₃-hydroxyalkyl radical, preferably hydrogen or a sodium cation, and

10 n is from 1 to 4, preferably is 1 or 2,

characterized in that the amount of the optical brightener is higher than 0.214 mol/kg, preferably from 0.215 to 0.350 mol/kg, more particularly from 0.250 to 0.340 mol/kg, and that no solubilizing agent is contained in the solution.

15

The aqueous solutions of the optical brightener(s) may optionally contain one or more carriers, antifreezes, preservatives, complexing agents etc., as well as organic by-products formed during the preparation of the optical brightener.

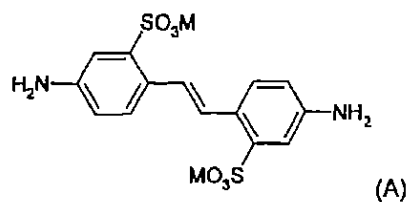
20 Carriers are known to give improved whitening characteristics and may be, e.g., polyethylene glycols, polyvinyl alcohols or carboxymethylcelluloses.

Antifreezes may be, e.g., urea, diethylene glycol or triethylene glycol.

25 The compounds of formula (1) are prepared by stepwise reaction of a cyanuric halide with

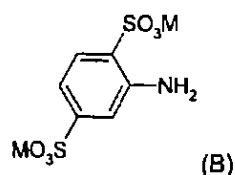


- a) a diamine of formula (A)



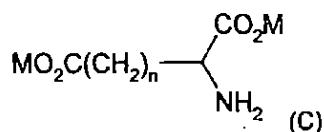
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- b) an amine of formula (B)



10 and

- c) an amine of formula (C)



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As a cyanuric halide there may be employed the bromide or, preferably, the chloride.

Each reaction may be carried out in an aqueous medium, the cyanuric halide being suspended in water, or in an aqueous/organic medium, the cyanuric halide being dissolved in a solvent such as acetone. Each amine may be introduced without dilution, or in the form of an aqueous solution or suspension. The amines can be reacted in any order, although it is preferred to react the aromatic amines first. Each amine may be reacted stoichiometrically, or in excess. Typically, the aromatic amines are reacted stoichiometrically, or in slight excess; the aliphatic amines are generally employed in an excess of 5-30% over stoichiometry.

9

For substitution of the first halogen of the cyanuric halide, it is preferred to operate at a temperature in the range of 0 to 20°C, and under acidic to neutral pH conditions, preferably in the pH range of 2 to 7. For substitution of the second halogen of the cyanuric halide, it is preferred to operate at a temperature in the range of 20 to 60°C, and under weakly acidic to weakly alkaline conditions, preferably at a pH in the range of 4 to 8. For substitution of the third halogen of the cyanuric halide, it is preferred to operate at a temperature in the range of 60 to 102°C, and under weakly acidic to alkaline conditions, preferably at a pH in the range of 7 to 10. The pH may be controlled by addition of suitable acids or bases as necessary, preferred acids being e.g., hydrochloric acid, sulphuric acid, formic acid or acetic acid, preferred bases being e.g., alkali metal (e.g., lithium, sodium or potassium) hydroxides, carbonates or bicarbonates, or aliphatic tertiary amines e.g. triethanolamine or triisopropanolamine.

A further object of the instant invention is the process for the preparation of said aqueous solutions wherein the compounds of formula (1) are prepared as described above and wherein the alkali metal or amine salt that is generated as a by-product of each reaction between an amine and a cyanuric halide is removed from the reaction solution.

In order to prepare a stable aqueous solution with a concentration of higher than 0.214 mol/kg (32-33% by weight), preferably from 0.214 to 0.350 mol/kg, more particularly from 0.250 to 0.340 mol/kg, of a compound of formula (1) without the addition of solubilizing aids such as ethylene glycol, urea or a mono-, di- or tri-(2-hydroxyethyl)- or (2-hydroxypropyl)-amine, it is necessary to remove at least 50 %, preferably at least 80 % by weight, of the alkali metal or amine salt that is generated as a by-product of each reaction between an amine and a cyanuric halide. This is preferably done by ultrafiltration or membrane filtration of the solution formed as described above. Alternatively, the compound of formula (1) can be isolated by precipitation (e.g. by the addition of acid) then redissolved.

A further object of the instant invention is the use of the instant storage-stable aqueous solutions for brightening of paper or other cellulosic substrates.

The concentrated solutions of compounds of formula (1) are particularly suitable for the brightening of paper after sheet formation. This may be effected by adding the optical

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brightener solution to a pigmented coating composition, or to a sizing solution or suspension.

5 In a preferred aspect to the instant invention, the concentrated solutions of compounds of formula (1) are applied to the surface of paper in a pigmented coating composition.

The coating compositions are essentially aqueous compositions that contain at least one binder and a white pigment, in particular an opacifying white pigment, and may additionally contain further additives such as dispersing agents and defoamers.

10

Although it is possible to produce coating compositions that are free from white pigments, the best white substrates for printing are made using opaque coating compositions that contain 10-70% white pigment by weight. Such white pigments are generally inorganic pigments, e.g., aluminium silicates (kaolin, otherwise known as china clay), calcium carbonate (chalk), titanium dioxide, aluminium hydroxide, barium carbonate, barium sulphate, or calcium sulphate (gypsum).

20 The binders may be any of those commonly used in the paper industry for the production of coating compositions and may consist of a single binder or of a mixture of primary and secondary binders. The sole or primary binder is preferably a synthetic latex, typically a styrene-butadiene, vinyl acetate, styrene acrylic, vinyl acrylic or ethylene vinyl acetate polymer. The secondary binder may be, e.g., starch, carboxymethylcellulose, casein, soy polymers, or polyvinyl alcohol.

25 The sole or primary binder is used in an amount typically in the range 5-25% by weight of white pigment. The secondary binder is used in an amount typically in the range 0.1-2% by weight of white pigment; starch however is typically used in the range 5-10% by weight of white pigment.

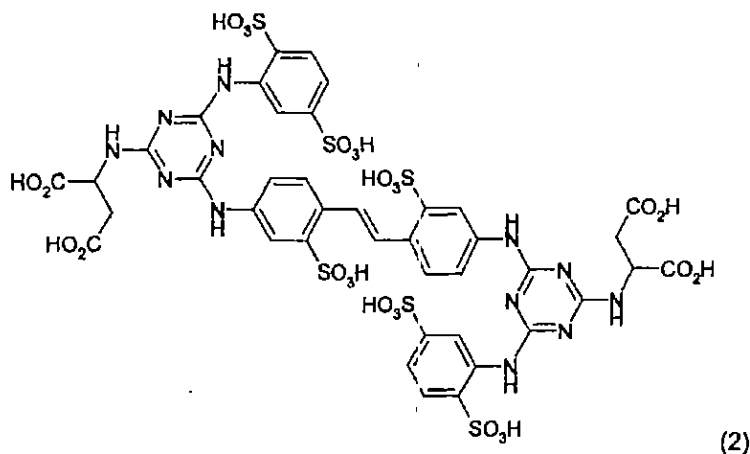
30 The optical brightener of formula (1) is used in an amount typically in the range 0.01-1% by weight of white pigment, preferably in the range 0.05-0.5% by weight of white pigment.

35 The following examples shall explain the instant invention in more detail. "Parts" means, if not defined differently, "parts by weight".

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PREPARATIVE EXAMPLE 1

A solution of 21.3 parts aniline-2,5-disulphonic acid and 6.7 parts sodium hydroxide in 30 parts water is added to a stirred suspension of 15.5 parts cyanuric chloride in 50 parts ice water. The pH is kept at 6 by the dropwise addition of 30% sodium hydroxide. The mixture is stirred below 10°C until primary aromatic amine groups can no longer be detected by the diazo reaction. A solution of 14.8 parts 4,4'-diaminostilbene-2,2'-disulphonic acid and 3.2 parts sodium hydroxide in 20 parts water is then added, the pH is adjusted to between 6.5 and 7.5 by the addition of 30% sodium hydroxide and the mixture is stirred at 30°C until a negative diazo reaction is obtained. A solution of 12.2 parts L-aspartic acid in 22.9 parts 16% sodium hydroxide is added, and the mixture is heated at reflux for 6 hours, the pH being kept at 7.5 to 8.5 by the addition of 30% sodium hydroxide. The aqueous solution so-formed of (2) in the form of its sodium salt, which is approximately 0.167 mol/kg in concentration, is desalinated by membrane filtration and concentrated to 0.330 mol/kg (50% by weight). The resulting solution, 2.0% in sodium chloride, has a viscosity of 0.23-0.25 Pa.s at 20°C and shows no signs of precipitation after 2 weeks at 5°C.



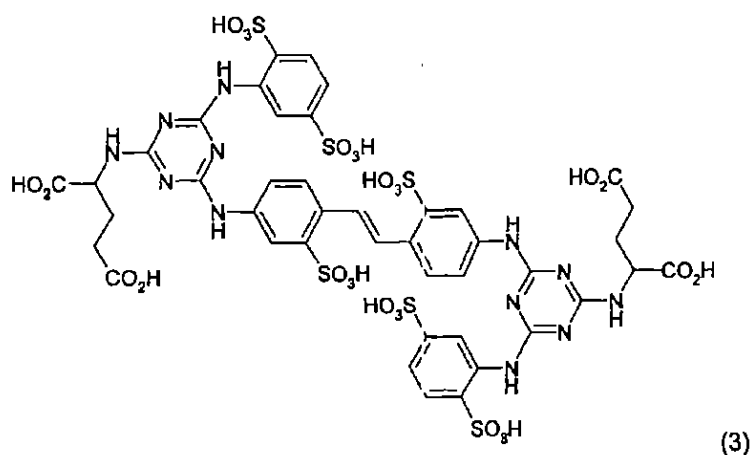
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PREPARATIVE EXAMPLE 2

An aqueous solution of (3) in the form of its sodium salt at a concentration of 0.330 mol/kg (51% by weight) is prepared as described in Example 1 but using 13.5 parts L-glutamic acid in place of 12.2 parts L-aspartic acid. The resulting solution, 2.0 % in

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sodium chloride, has a viscosity of 0.23-0.25 Pa.s at 20°C and shows no signs of precipitation after 2 weeks at 5°C.



(3)

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APPLICATION EXAMPLE 1

A coating composition is prepared containing 500 parts chalk (commercially available under the trade name Hydrocarb 90 from OMYA), 500 parts clay (commercially available under the trade name Kaolin SPS from IMERYS), 470 parts water, 6 parts dispersing agent (a sodium salt of a polyacrylic acid commercially available under the trade name Polysalz S from BASF), 200 parts latex (an acrylic ester copolymer commercially available under the trade name Acronal S320D from BASF) and 30 parts of a 10% solution of carboxymethyl cellulose (commercially available under the trade name Flinnfix 5.0 from Noviant) in water. The solids content is adjusted to 65% by the addition of water, and the pH is adjusted to 8-9 with sodium hydroxide.

The solution of brightener (2) in the form of its sodium salt, made as described in Preparative Example 1, is added at a range of concentrations from 0.1 to 0.6% to the stirred coating composition. The brightened coating composition is then applied to a commercial 75 gsm neutral-sized white paper base sheet using an automatic wire-wound bar applicator with a standard speed setting and a standard load on the bar. The coated paper is then dried for 5 minutes in a hot air flow. The dried paper is allowed to condition, then measured for CIE Whiteness on a calibrated Elrepho spectrophotometer.

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TABLE 1

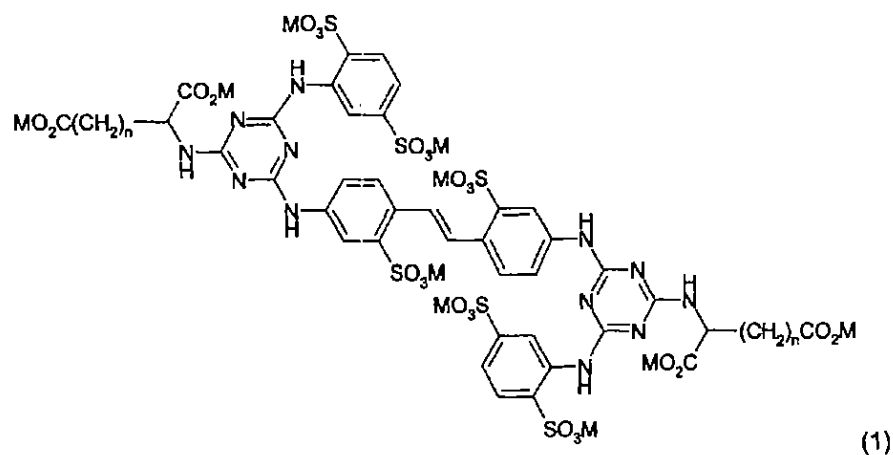
OBA Concentration (%)	CIE Whiteness using Brightener of Example 1
0	92.0
0.1	97.9
0.2	102.6
0.3	106.2
0.4	108.4
0.5	110.3
0.6	112.2

5 The results are also shown in graphical form in Figure 1.

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CLAIMS

1. Storage-stable aqueous solution comprising an optical brightener of formula (1)



wherein

M is hydrogen, an alkali metal cation, ammonium, or ammonium which is mono-, di- or trisubstituted by a C₂-C₃-hydroxyalkyl radical, and

n is from 1 to 4,

characterized in that the amount of the optical brightener is higher than 0.214 mol/kg and that no solubilizing agent is contained in the solution.

2. Storage-stable aqueous solution according to claim 1 wherein

M is hydrogen or a sodium cation, and

n is 1 or 2.

3. Storage-stable aqueous solution according to claim 1 or 2 wherein the concentration of the optical brightener is from 0.215 mol/kg to 0.350 mol/kg.

4. Storage-stable aqueous solution according to claim 3 wherein the concentration of the optical brightener is from 0.250 mol/kg to 0.340 mol/kg.

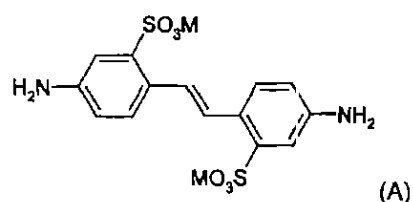
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5. Storage-stable aqueous solution according to any of claims 1 to 4 wherein additionally inorganic salts, carriers, antifreezes, preservatives or complexing agents are contained.

5 6. Process for the preparation of an aqueous solution according to any of claims 1 to 5 wherein the compounds of formula (1) are prepared by stepwise reaction of a cyanuric halide with

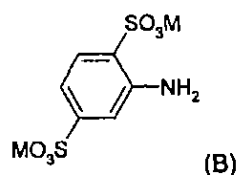
a) a diamine of formula (A)

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b) an amine of formula (B)

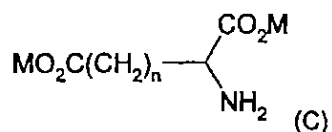
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and

c) an amine of formula (C)

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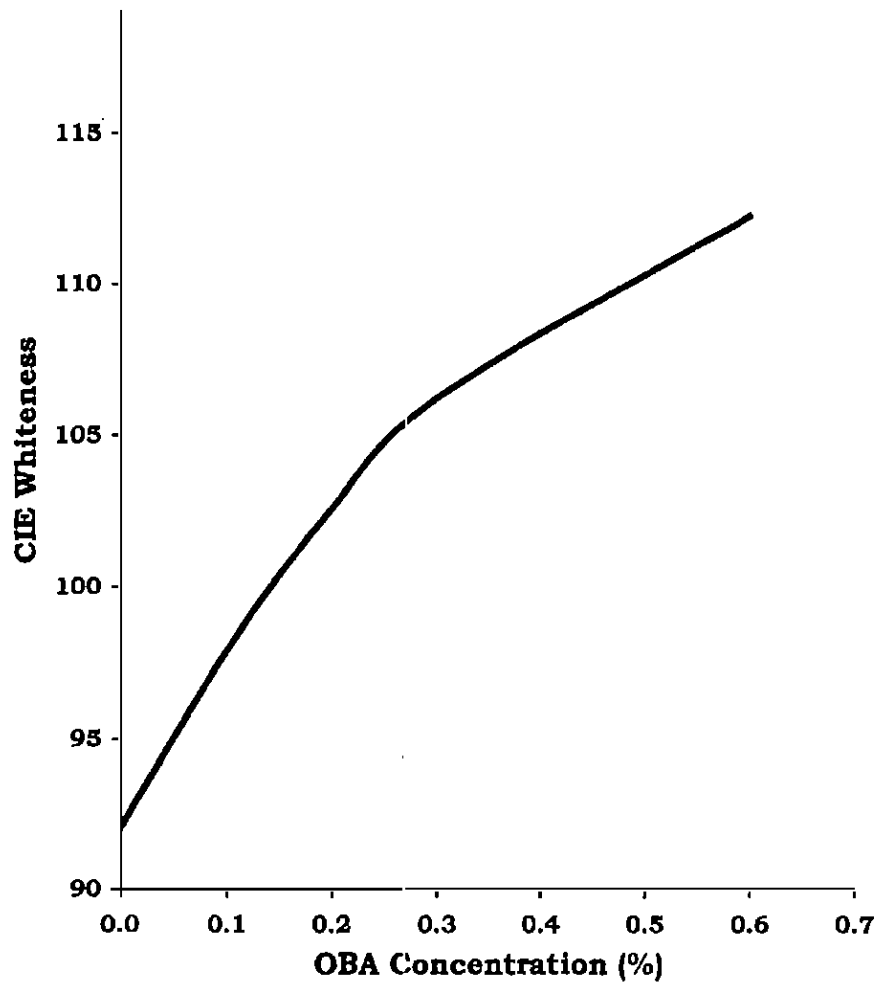
and wherein at least 50 %, preferably at least 80 % by weight, of the alkali metal or amine salt that is generated as a by-product of each reaction between an amine and a cyanuric halide is removed from the reaction solution.

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7. Process according to claim 6 wherein the removal of the alkali metal or amine salt is done by ultrafiltration or membrane filtration of the reaction solution or by isolating the optical brightener and then dissolving it again.
- 5 8. Process according to claim 7 wherein the removal is done by membrane filtration.
9. Use of a storage-stable aqueous solution according to any of claims 1 to 5 for brightening of paper or other cellulosic substrates wherein the optical brightener is used in a concentration of 0.05 to 0.5 % by weight of the white pigment.
- 10 10. Use according to claim 9 for brightening of paper in a pigmented coating composition.

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FIGURE 1

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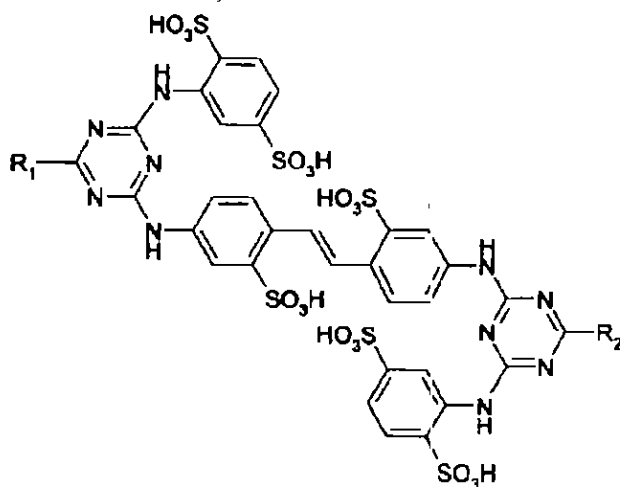
SOLUCIONES CONCENTRADAS DE ABRILLANTADORES OPTICOS

La presente invención se refiere a soluciones acuosas concentradas de abrillantadores ópticos de estilbeno hexasulfonado que son estables en almacenamiento en ausencia de agentes solubilizantes de tipo urea.

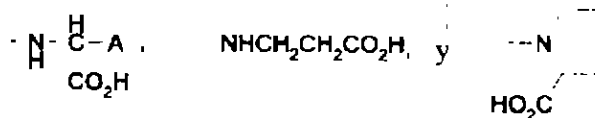
Estado de la técnica

Los agentes abrillantadores ópticos (OBAs) de estilbeno hexasulfonado constituyen un medio bien establecido para producir papel revestido con un alto grado de blancura. Con suma preferencia, dichos abrillantadores ópticos se comercializan y usan en forma de soluciones acuosas.

La publicación japonesa Kokai 62-106965 describe un abrillantador óptico, o una sal del mismo, de fórmula



en donde R_1 y R_2 representan cada uno independientemente un grupo elegido entre



y A representa un grupo elegido entre un átomo de hidrógeno, un grupo alquilo que tiene de 1 a 4 átomos de carbono y que puede tener una cadena lateral, un grupo

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hidroximetilo, un grupo hidroxietilo, un grupo metiltioetilo, un grupo bencilo, un grupo carboximetilo y un grupo carboxietilo.

De acuerdo con la Kokai, dichos abrillantadores ópticos tienen una solubilidad muy elevada en agua y pueden ser comercializados en forma de una solución espesa después de separar el cloruro sódico producido en la reacción y concentrar el contenido en agua por un método adecuado. Los abrillantadores ópticos son reivindicados como muy eficaces para el blanqueo de papel por medio de un tratamiento de su superficie.

Cada uno de los ejemplos de la Kokai describen la preparación de un abrillantador óptico que es desalificado por ultrafiltración para proporcionar una solución espesa. Suponiendo que en el ejemplo 1 la reacción de los compuestos de partida proporcione un rendimiento del 100% de dicho abrillantador óptico, la concentración máxima en dicha solución espesa sería entonces de 0,214 mol/kg (30-32%). Cada solución se hace entonces estable en almacenamiento por medio de la adición de 10% de urea.

Por tanto, este documento describe que las soluciones acuosas de dichos abrillantadores ópticos son inestables a concentraciones iguales a 0,214 mol/kg (30-32%) sin la adición de urea.

Sin embargo, existe una demanda hacia soluciones acuosas más concentradas de abrillantadores ópticos. La concentración de la solución acuosa es de particular importancia cuando el abrillantador se aplica en una composición de revestimiento pigmentada; es bien sabido que los fabricantes de papel tienen como objetivo reducir al mínimo el contenido en agua de la composición de revestimiento con el fin de reducir al mínimo la energía de secado y también reducir al mínimo la migración de agua y aglutinante hacia el papel base. (Véase, por ejemplo, "The Essential Guide to

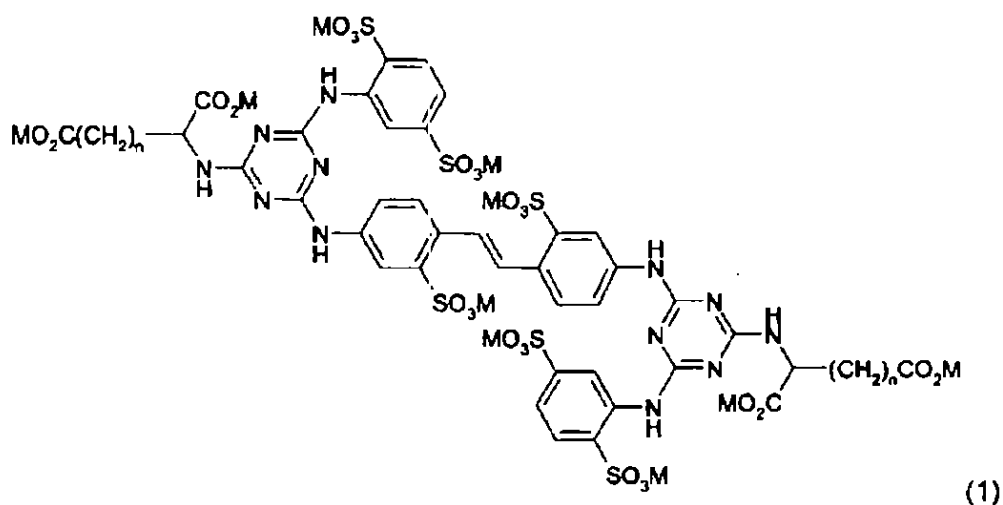
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Aqueous Coating of Paper and Board", ed. T.W.R. Dean, PITA, 1997).

Descripción de la invención

De manera sorprendente y en contraste con las enseñanzas de dicho documento japonés, se ha comprobado ahora que algunos de dichos OBAs de estilbeno hexasulfonado se pueden preparar en forma de soluciones acuosas altamente concentradas que son estables en almacenamiento a concentraciones de hasta 0,350 mol/kg (alrededor de 54% en peso). Cuando se aplican a la superficie de papel bien en una composición de revestimiento pigmentada o bien en la prensa de apresto, dichas soluciones acuosas proporcionan efectos de blanqueo fluorescente superiores.

En consecuencia, un objeto de la presente invención consiste en una solución acuosa estable en almacenamiento que comprende un abrillantador óptico de fórmula (1)



en donde

M es hidrógeno, un catión de metal alcalino, amonio o amonio que está mono-, di- o trisustituido por un radical hidroxialquilo C₂-C₃, preferentemente hidrógeno o

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el catión sodio; y

n es de 1 a 4, preferentemente 1 o 2;

caracterizada porque la cantidad del abrillantador óptico es mayor de 0,214 mol/kg, con preferencia de 0,215 a 0,351 mol/kg, más particularmente de 0,250 a 0,340 mol/kg, y porque en la solución no está presente ningún agente solubilizante.

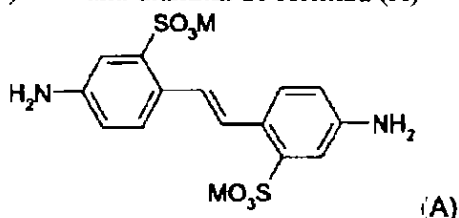
Las soluciones acuosas del abrillantador óptico o de los abrillantadores ópticos pueden contener opcionalmente uno o más adyuvantes, anticongelantes, conservantes, agentes complejantes, etc, así como subproductos orgánicos formados durante la preparación del abrillantador óptico.

Los adyuvantes son conocidos por proporcionar características de blanqueo mejoradas y pueden ser, por ejemplo, polietilenglicoles, alcoholes polivinílicos o carboximetilcelulosas.

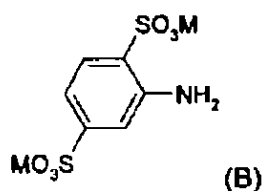
Los anticongelantes pueden ser, por ejemplo, urea, dietilenglicol o trietilenglicol.

Los compuestos de fórmula (1) se preparan mediante una reacción por etapas de un haluro cianúrico con

a) una diamina de fórmula (A)



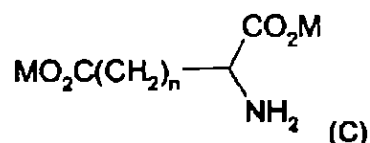
b) una amina de fórmula (B)



[Handwritten signature]

y

c) una amina de fórmula (C)



Como haluro cianúrico se puede emplear el bromuro o, preferentemente, el cloruro.

Cada reacción puede ser efectuada en un medio acuoso, con el haluro cianúrico suspendido en agua o en un medio acuoso/orgánico, o con el haluro cianúrico disuelto en un disolvente tal como acetona. Cada una de las aminas se puede introducir sin dilución o en forma de una solución o suspensión acuosa. Las aminas se pueden hacer reaccionar en cualquier orden, aunque es preferible reaccionar en primer lugar las aminas aromáticas. Cada amina se puede hacer reaccionar estequiométricamente o en exceso. En general, las aminas aromáticas se hacen reaccionar estequiométricamente o en un ligero exceso; las aminas alifáticas se emplean normalmente en un exceso de 5-30% respecto a la estequiometría.

Para la sustitución del primer halógeno del haluro cianúrico, es preferible trabajar a una temperatura de 0 a 20° C y bajo condiciones de pH ácido a neutro, preferentemente en un intervalo de pH de 2 a 7. Para la sustitución del segundo halógeno del haluro cianúrico, es preferible trabajar a una temperatura de 20 a 60° C y bajo condiciones débilmente ácidas a débilmente alcalinas, con preferencia a un pH de 4 a 8. Para la sustitución del tercer halógeno del haluro cianúrico, es preferible trabajar a una temperatura de 60 a 102° C y bajo condiciones débilmente ácidas a alcalinas, con preferencia a un pH de 7 a 10. El pH puede ser controlado por adición de ácidos o bases adecuados según sea necesario, siendo los ácidos preferidos, por

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ejemplo, ácido clorhídrico, ácido sulfúrico, ácido fórmico o ácido acético, y siendo las bases preferidas, por ejemplo, hidróxidos, carbonatos o bicarbonatos de metales alcalinos (por ejemplo, litio, sodio o potasio) o aminas terciarias alifáticas, por ejemplo, trietanolamina o triisopropanolamina.

Otro objeto de la presente invención consiste en un procedimiento para la preparación de dichas soluciones acuosas en donde los compuestos de fórmula (1) se preparan como anteriormente se ha descrito y en donde la sal de metal alcalino o amínica que se genera como subproducto de cada reacción entre una amina y un haluro cianúrico se separa de la solución de reacción.

Con el fin de preparar una solución acuosa estable con una concentración mayor de 0,214 mol/kg (32-33%) en peso, con preferencia de 0,214 a 0,350 mol/kg, más particularmente de 0,250 a 0,340 mol/kg, de un compuesto de fórmula (1) sin la adición de agentes solubilizantes tales como etilenglicol, urea o una mono-, di- o tri-(2-hidroxietil)- o (2-hidroxipropil)-amina, es necesario separar al menos 50%, con preferencia al menos 80% en peso, de la sal de metal alcalino o amínica que se genera como subproducto de cada reacción entre una amina y un haluro cianúrico. Esto se efectúa preferentemente por ultrafiltración o filtración con membrana de la solución formada como anteriormente se ha descrito. Alternativamente, el compuesto de fórmula (1) puede ser aislado por precipitación (por ejemplo, por adición de ácido) y luego redisolto.

Otro objeto de la presente invención consiste en el uso de las presentes soluciones acuosas estables en almacenamiento para abrillantar papel u otros sustratos celulósicos.

Las soluciones concentradas de los compuestos de fórmula (1) son particularmente adecuadas para abrillantar papel después de la formación de las hojas

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de papel. Esto se puede efectuar añadiendo la solución de abrillantador óptico a una composición de revestimiento pigmentada o a una solución o suspensión de apresto.

En un aspecto preferido de la presente invención, las soluciones concentradas de compuestos de fórmula (1) se aplican a la superficie de papel en una composición de revestimiento pigmentada.

Las composiciones de revestimiento son composiciones esencialmente acuosas que contienen al menos un aglutinante y un pigmento blanco, en particular un pigmento blanco opacificante, y además pueden contener otros aditivos tales como agentes dispersantes y desespumantes.

Si bien es posible producir composiciones de revestimiento que están libres de pigmentos blancos, los mejores sustratos blancos para impresión se preparan empleando composiciones de revestimiento opacas que contienen 10-70% en peso de pigmento blanco. Dichos pigmentos blancos son en general pigmentos inorgánicos, por ejemplo, silicatos de aluminio (caolín, conocido también como arcilla caolinica), carbonato cálcico (creta), dióxido de titanio, hidróxido de aluminio, carbonato de bario, sulfato de bario o sulfato cálcico (yeso).

Los aglutinantes pueden ser cualquiera de los tradicionalmente usados en la industria del papel para la producción de composiciones de revestimiento y pueden consistir en un solo aglutinante o en una mezcla de aglutinantes primarios y secundarios. El aglutinante único o primario es preferentemente un látex sintético, normalmente un polímero de estireno-butadieno, acetato de vinilo, estireno-acrílico, vinil-acrílico o etileno-acetato de vinilo. El aglutinante secundario puede ser, por ejemplo, almidón, carboximetilcelulosa, caseína, polímeros de soja o alcohol polivinílico.

El aglutinante único o primario se emplea en una cantidad normalmente de 5-

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25% en peso de pigmento blanco. El aglutinante secundario se emplea en una cantidad normalmente de 0,1-2% en peso de pigmento blanco; sin embargo, el almidón se emplea normalmente en una cantidad de 5-10% en peso de pigmento blanco.

El abrillantador óptico de fórmula (1) se emplea en una cantidad normalmente de 0,01-1% en peso de pigmento blanco, con preferencia de 0,05-0,5% en peso de pigmento blanco.

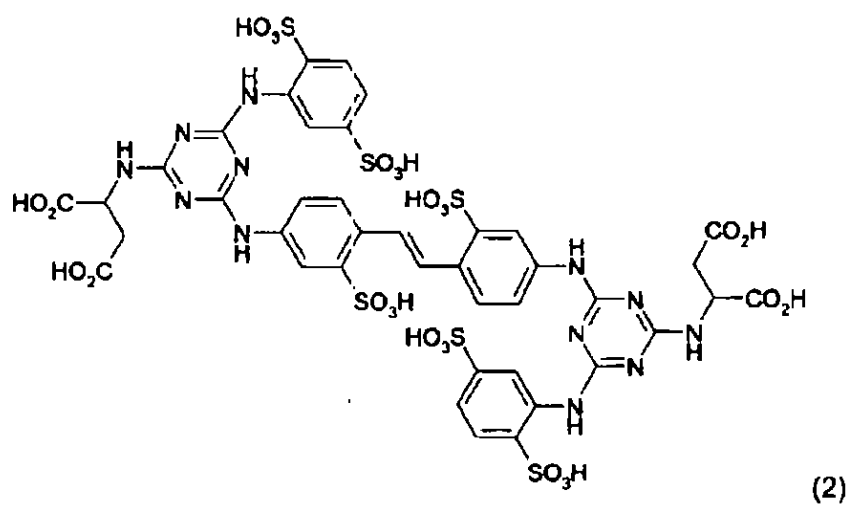
Los siguientes ejemplos explicarán la presente invención con mayor detalle. El término "partes" significa "partes en peso" salvo que se indique lo contrario.

Ejemplo de preparación 1

Una solución de 21,3 partes de ácido anilín-2,5-disulfónico y 6,7 partes de hidróxido sódico en 30 partes de agua se añade a una suspensión agitada de 15,5 partes de cloruro cianúrico en 50 partes de hielo-agua. El pH se mantiene en 6 por la adición gota a gota de hidróxido sódico al 30%. La mezcla se agita a una temperatura por debajo de 10° C hasta que ya no pueden detectarse grupos amino aromáticos primarios mediante la reacción diazo. Se añade entonces una solución de 14,8 partes de ácido 4,4'-diaminoestilben-2,2'-disulfónico y 3,2 partes de hidróxido sódico en 20 partes de agua, se ajusta el pH entre 6,5 y 7,5 por adición de hidróxido sódico al 30% y la mezcla se agita a 30° C hasta que se obtiene una reacción diazo negativa. Se añade una solución de 12,2 partes de ácido L-aspartico en 22,9 partes de hidróxido sódico al 16% y la mezcla se calienta a reflujo durante 6 horas, manteniéndose el pH en 7,5-8,5 por adición de hidróxido sódico al 30%. La solución acuosa así formada de (2) en forma de su sal sódica, que tiene una concentración de alrededor de 0,167 mol/kg, se desalifica por filtración con membrana y se concentra a 0,330 mol/kg (50% en peso). La solución resultante, 2,0% en cloruro sódico, tiene una viscosidad

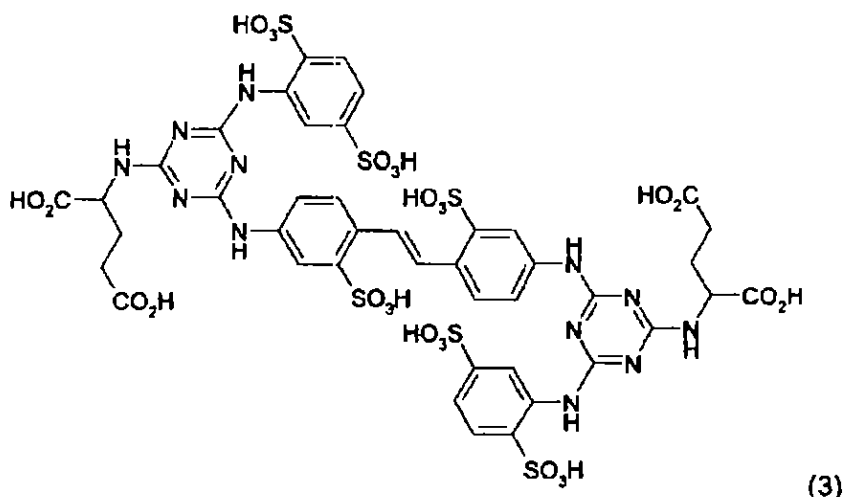
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de 0,23-0,25 Pa.s a 20° C y no muestra signos de precipitación después de 2 semanas a 5° C.



Ejemplo de preparación 2

Se prepara una solución acuosa de (3) en forma de su sal sódica a una concentración de 0,330 mol/kg (51% en peso) como se ha descrito en el ejemplo 1 pero empleando 13,5 partes de ácido L-glutámico en lugar de 12,2 partes de ácido L-aspartico. La solución resultante, 2,0% en cloruro sódico, tiene una viscosidad de 0,23-0,25 Pa.s a 20° C y no muestra signos de precipitación después de 2 semanas a 5° C.



Ejemplo de aplicación 1

Se prepara una composición de revestimiento que contiene 500 partes de creta (disponible comercialmente con el nombre registrado Hydrocarb 90 de OMYA), 500 partes de arcilla (disponible comercialmente con el nombre registrado Kaolin SPS de IMERYS), 470 partes de agua, 6 partes de agente dispersante (una sal sódica de un ácido poliacrílico disponible comercialmente con el nombre registrado Poysalz S de BASF), 200 partes de látex (un copolímero de éster acrílico disponible comercialmente con el nombre registrado Acronal S320D de BASF) y 30 partes de una solución al 10% de carboximetilcelulosa (disponible comercialmente con el nombre registrado Finnfix 5.0 de Noviant) en agua. El contenido en sólidos se ajusta a 65% por adición de agua y el pH se ajusta a 8-9 con hidróxido sódico.

La solución de abrillantador (2) en forma de su sal sódica, preparada como se ha descrito en el ejemplo de preparación 1, se añade en un intervalo de concentraciones de 0,1 a 0,6% a la composición de revestimiento agitada. Se aplica entonces la composición de revestimiento abrillantada a una hoja base de papel blanco neutro-aprestada de 75 gsm, comercial, empleando un agitador de varilla

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enrollada en tela metálica con un ajuste estándar de la velocidad y con una carga también estándar en la varilla. El papel revestido se seca entonces durante 5 minutos en un flujo de aire caliente. El papel seco se deja acondicionar, tras lo cual se mide la blancura CIE en un espectrofotómetro Elrepho calibrado.

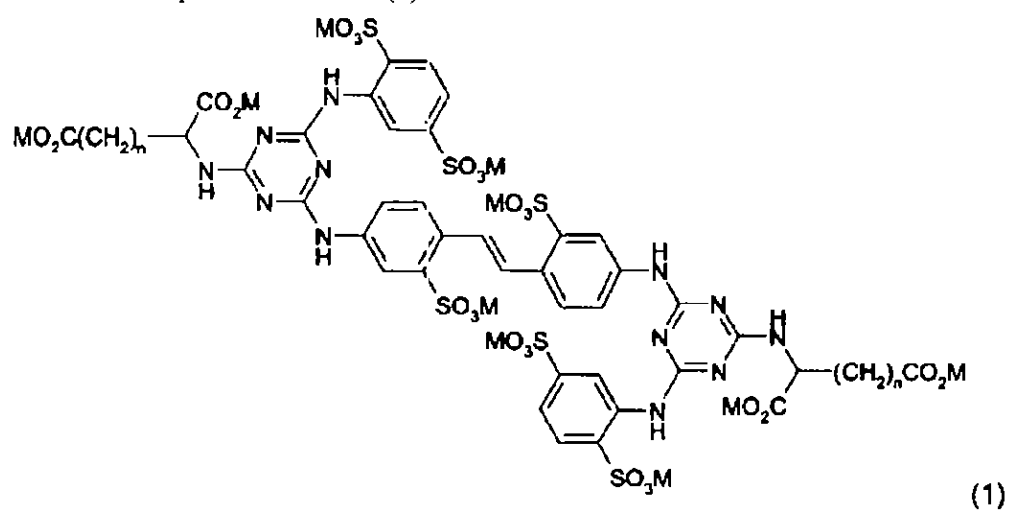
Tabla 1

Concentración OBA (%)	Blancura CIE empleando el abrillantador del ejemplo 1
0	92,0
0,1	97,9
0,2	102,6
0,3	106,2
0,4	108,4
0,5	110,3
0,6	112,2

Los resultados se muestran también de forma gráfica en la figura 1.

REIVINDICACIONES

1. - Una solución acuosa estable en almacenamiento que comprende un
abrillantador óptico de fórmula (1)



en donde

M es hidrógeno, un catión de metal alcalino, amonio o amonio que está mono-, di-
o trisustituido por un radical hidroxialquilo C₂-C₃; y

n es de 1 a 4;

caracterizada porque la cantidad del abrillantador óptico es mayor de 0,214 mol/kg, y
porque en la solución no está presente ningún agente solubilizante.

2. - Una solución acuosa estable en almacenamiento según la reivindicación
1, caracterizada porque M es hidrógeno o un catión sodio y n es 1 o 2.

3. - Una solución acuosa estable en almacenamiento según la reivindicación
1 o 2, caracterizada porque la concentración del abrillantador óptico es de 0,215
mol/kg a 0,350 mol/kg.

4. - Una solución acuosa estable en almacenamiento según la reivindicación
3, en donde la concentración del abrillantador óptico es de 0,250 mol/kg a 0,340

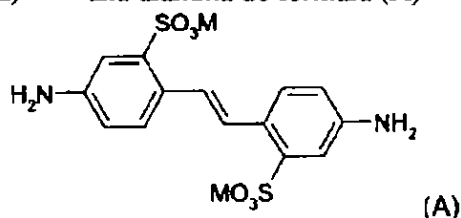
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mol/kg.

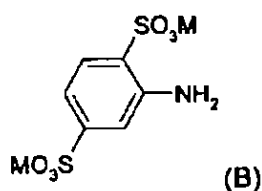
5. - Una solución acuosa estable en almacenamiento según cualquiera de las reivindicaciones 1 a 4, caracterizada porque contiene además sales inorgánicas, adyuvantes, anticongelantes, conservantes o agentes complejantes.

6. - Procedimiento para la preparación de una solución acuosa según cualquiera de las reivindicaciones 1 a 5, caracterizado porque los compuestos de fórmula (I) se preparan mediante la reacción por etapas de un haluro cianúrico con

a) una diamina de fórmula (A)

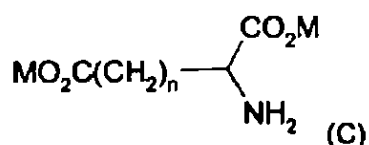


b) una amina de fórmula (B)



y

c) una amina de fórmula (C)



y porque al menos el 50%, preferentemente al menos el 80% en peso, de la sal de metal alcalino o aminica que se genera como subproducto de cada reacción entre una amina y un haluro cianúrico, se separa de la solución de reacción.

7. - Procedimiento según la reivindicación 6, caracterizado porque la

separación de la sal de metal alcalino o aminica se efectúa por ultrafiltración o filtración con membrana de la solución de reacción o por aislamiento del abrillantador óptico y posterior disolución de nuevo del mismo.

8. - Procedimiento según la reivindicación 7, caracterizado porque la separación se efectúa mediante filtración con membrana.

9. - Uso de una solución acuosa estable en almacenamiento según cualquiera de las reivindicaciones 1 a 5 para abrillantar papel u otros sustratos celulósicos, caracterizado porque el abrillantador óptico se emplea en una concentración de 0,05 a 0,5% en peso del pigmento blanco.

10. - Uso según la reivindicación 9 para abrillantar papel en una composición de revestimiento pigmentada.

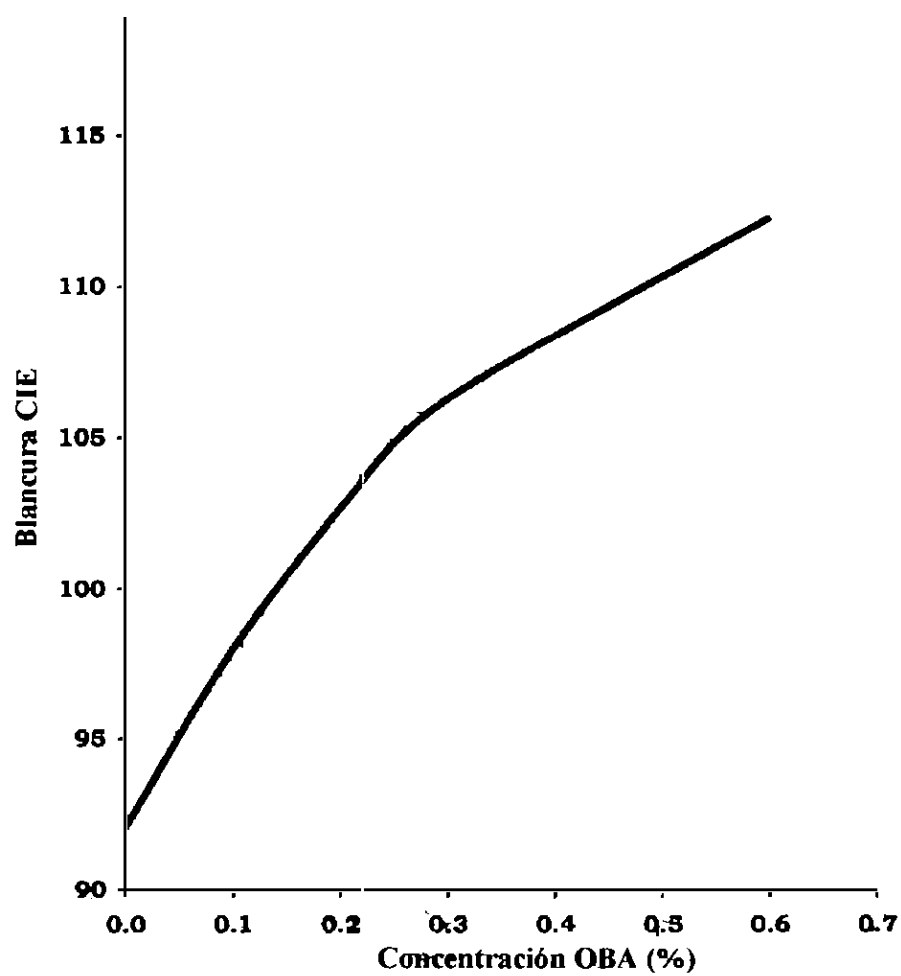
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RESUMEN

La presente invención se refiere a soluciones acuosas concentradas de abrillantadores ópticos de estilbeno hexasulfonado que son estables en almacenamiento en ausencia de agentes solubilizantes de tipo urea. Mediante la separación de las sales resultantes de la preparación del abrillantador óptico, se puede obtener una concentración de hasta 0,350 mol/kg sin pérdida de estabilidad en almacenamiento. El menor contenido en agua permite composiciones de revestimiento que requieren menos energía de secado y que muestran una menor migración de agua y aglutinante al interior del papel.

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FIGURA 1



PATENT COOPERATION TREATY

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To:

DÜNNWALD, Dieter
Clariant International Ltd
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SUISSE

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24. Feb. 2006

NOTIFICATION OF TRANSMITTAL OF
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Date of mailing

(day/month/year)

20.02.2006

Applicant's or agent's file reference

2004CH006

IMPORTANT NOTIFICATION

International application No.

PCT/B2005/000407

International filing date (day/month/year)

17.02.2005

Priority date (day/month/year)

05.03.2004

Applicant

CLARIANT INTERNATIONAL LTD

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
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The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

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For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions are patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2004CH006	FOR FURTHER ACTION	See Form PCT/PEA/416
International application No. PCT/IB2005/000407	International filing date (day/month/year) 17.02.2005	Priority date (day/month/year) 05.03.2004
International Patent Classification (IPC) or national classification and IPC C07D251/68, D21H21/30		
Applicant CLARIANT INTERNATIONAL LTD		
1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of 5 sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: a. ☐ sent to the applicant and to the International Bureau) a total of sheets, as follows: ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).		
4. This report contains indications relating to the following items: ☒ Box No. I Basis of the opinion ☐ Box No. II Priority ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability ☐ Box No. IV Lack of unity of invention ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement ☐ Box No. VI Certain documents cited ☒ Box No. VII Certain defects in the international application ☐ Box No. VIII Certain observations on the international application		
Date of submission of the demand 15.12.2005	Date of completion of this report 20.02.2006	
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**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

36 8
International application No.
PCT/IB2005/000407

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-9 as originally filed

Claims, Numbers

1-10 as originally filed

Drawings, Sheets

1 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

37 5

INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY

International application No.
PCT/IB2005/000407

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-10
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-10
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/IB2005/000407

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

Reference is made to the following document:

D1: WO 98/42685 A (CIBA GEIGY AG ; ROHRINGER PETER (CH); REINEHR DIETER (DE); METZGER GEO) 1 October 1998 (1998-10-01)

Novelty

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses an optical brightener which is the same as the optical brightener of formula (1) in claim 1 (see D1 example 9).

The subject-matter of claim 1 differs from this known D1 in that the amount of optical brightener in the aqueous solution is higher than 0.214 mol/kg.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

Inventive step

The characteristic part of the subject-matter of claim 1 is the concentration of the optical brightener in the aqueous solution being higher than 0.214 mol/kg. However, the applicant does not provide any reason for the choice of this value, which appears to be arbitrary. The problem to be solved by the present invention may therefore be regarded as providing an alternative to the existing optical brightener solutions.

The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT), because the skilled person would consider different concentrations of optical brighteners as obvious solutions to this problem.

Thus the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.

The same reasoning applies, mutatis mutandis, to the subject-matter of independent claims 6 and 9, which therefore is also considered not inventive.

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/IB2005/000407

Dependent claims 2-5, 7, 8 and 10 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step.

Industrial applicability :

The subject-matter of claims 1-10 is considered to meet the requirements of Article 33(4) PCT.

Re Item VII

Certain defects in the international application

The document D1 has not been identified in the description and the relevant background art disclosed therein has not been briefly summarised in an objective way. Hence the requirements of Rule 5.1(a)(ii) PCT are not fulfilled.

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 2004CH006	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, Item 5 below.	
International application No. PCT/IB2005/000407	International filing date (day/month/year) 17/02/2005	(Earliest) Priority Date (day/month/year) 05/03/2004
Applicant CLARIANT INTERNATIONAL LTD		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The International search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box II).3. ☐ **Unity of invention is lacking** (see Box III).4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. _____

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

- b. ☒ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/IB2005/00040741
XA. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07D251/68 D21H21/30

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C07D D21H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data, BEILSTEIN Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98/42685 A (CIBA GEIGY AG ; ROHRINGER PETER (CH); REINEHR DIETER (DE); METZGER GEO) 1 October 1998 (1998-10-01) example 9 page 5, paragraph 3 - page 8, paragraph 1 claims 12-24	1, 2, 6-10
X	WO 03/044275 A (CLARIANT INT LTD ; JACKSON ANDREW CLIVE (GB)) 30 May 2003 (2003-05-30) = 2001 CH028 example 1 page 17, line 9 - page 19, line 4 ----- -/-	1, 2, 6, 8-10

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *Z* document member of the same patent family

Date of the actual completion of the international search

14 July 2005

Date of mailing of the international search report

25/07/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Songy, 0

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 0113, no. 22 (C-453), 20 October 1987 (1987-10-20) & JP 62 106965 A (SHIN NISSO KAKO CO LTD), 18 May 1987 (1987-05-18) cited in the application abstract -----	

1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB2005/000407

43
R

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9842685	A	01-10-1998	AT 244227 T	15-07-2003
			AT 273290 T	15-08-2004
			AU 6831498 A	20-10-1998
			BR 9808058 A	08-03-2000
			CA 2284723 A1	01-10-1998
			CN 1251581 A ,C	26-04-2000
			DE 69816135 D1	07-08-2003
			DE 69816135 T2	22-04-2004
			DE 69825574 D1	16-09-2004
			WO 9842685 A1	01-10-1998
			EP 1123929 A1	16-08-2001
			EP 0971905 A1	19-01-2000
			ES 2226117 T3	16-03-2005
			ID 22819 A	09-12-1999
			JP 2001518919 T	16-10-2001
			NO 994662 A	15-11-1999
			RU 2198168 C2	10-02-2003
			US 6210449 B1	03-04-2001
			US 2001014989 A1	23-08-2001
			US 2002017001 A1	14-02-2002
			ZA 9802474 A	07-12-1999
WO 03044275	A	30-05-2003	AU 2002347452 A1	10-06-2003
			BR 0214268 A	21-09-2004
			CA 2456908 A1	30-05-2003
			CN 1589352 A	02-03-2005
			EP 1448853 A1	25-08-2004
			WO 03044275 A1	30-05-2003
			JP 2005509735 T	14-04-2005
			US 2005022320 A1	03-02-2005
			ZA 200401324 A	10-03-2005
JP 62106965	A	18-05-1987	NONE	

PATENT COOPERATION TREATY

24
A

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/B2005/000407

International filing date (day/month/year)
17.02.2005

Priority date (day/month/year)
05.03.2004

International Patent Classification (IPC) or both national classification and IPC
C07D251/68, D21H21/30

Applicant
CLARIANT INTERNATIONAL LTD

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66 1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220;

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office - P B 5818 Patentlaan 2
NL-2280 HV Rijswijk - Pays Bas
Tel +31 70 340 - 2040 Tx: 31 651 epo nl
Fax +31 70 340 - 3016

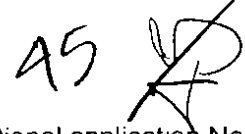
Authorized Officer

Songy, O

Telephone No +31 70 340-2345



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

45 
International application No
PCT/B2005/000407

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/IB2005/000407

46 60
X

Box No. V Reasoned statement under Rule 43bis.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	3-5
	No: Claims	1 2 6-10
Inventive step (IS)	Yes: Claims	3-5
	No: Claims	1 2 6-10
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The following documents (D1, D2) are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: WO 98/42685 A (CIBA GEIGY AG ; ROHRINGER PETER (CH); REINEHR DIETER (DE); METZGER GEO) 1 October 1998 (1998-10-01)

D2: WO 03/044275 A (CLARIANT INT LTD ; JACKSON ANDREW CLIVE (GB)) 30 May 2003 (2003-05-30)

Novelty

The present application does not meet the requirements of Article 33(1) PCT, because the subject-matter of claims 1,2, 6-10 is not new in the sense of Article 33(2) PCT.

The optical brightener of formula (1) is the same as the optical brightener disclosed in the example 9 of D1.

In said example 9 of D1, it is explained how to obtain an aqueous solution of compound of formula (1). The aqueous solution obtained during the process of example 1 is a priori stable. Therefore, the aqueous solution comprising an optical brightener of formula (1) claimed in claim 1 is not new.

The content of claim 2 is not new (M=Na and n=2).

The example 9 of D1 discloses exactly the same process for preparing the compound of formula (1) as the process claimed in claims 6 to 8.

The use of the aqueous solution of claim 1 for brightening of paper, eg in a pigmented coating composition, is described in D1 (pages 5-8, claims 12-24).

In the same way, the example 1 and the pages 17-19 of D2 disclose the aqueous solution

of claim 1-2, the process for preparing the aqueous solution of claim 6 and the use of said aqueous solution for brightening of paper of claims 9-10.

Inventive step

Since the subject-matter of claims 1,2, 6-10 is not new, it is also not inventive in the sense of Article 33(3) PCT.

Industrial applicability :

The subject-matter of claims 1-10 is considered to meet the requirements of Article 33(4) PCT.

Re Item VII

Certain defects in the international application

The document D1 has not been identified in the description and the relevant background art disclosed therein has not been briefly summarised in an objective way. Hence, the requirements of Rule 5.1(a)(ii) PCT are not fulfilled.

RECEIVED

31. Jan. 2006

PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

To:

DÜNNWALD, Dieter
Clariant International Ltd
Rothausstrasse 61
CH-4132 Muttenz 1
Switzerland

NOTIFICATION OF THE RECORDING
OF A CHANGE

(PCT Rule 92bis.1 and
Administrative Instructions, Section 42:2)

Date of mailing (day/month/year) 26 January 2006 (26.01.2006)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference 2004CH006	
International application No. PCT/IB2005/000407	International filing date (day/month/year) 17 February 2005 (17.02.2005)

1. The following indications appeared on record concerning:

☒ the applicant ☐ the inventor ☐ the agent ☐ the common representative

Name and Address CLARIANT INTERNATIONAL LTD Rothausstrasse 61 CH-4132 Muttenz 1 Switzerland	State of Nationality CH	State of Residence CH
	Telephone No. +41 61 469 5245	
	Facsimile No. +41 61 469 6588	
	Teleprinter No.	

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person ☐ the name ☐ the address ☐ the nationality ☐ the residence

Name and Address CLARIANT FINANCE (BVI) LIMITED ✓ Citco Building, Wickhams Cay P.O. Box 662 Road Town Tortola British Virgin Islands	State of Nationality CH	State of Residence CH
	Telephone No. +41 61 469 5245	
	Facsimile No. +41 61 469 6588	
	Teleprinter No.	

3. Further observations, if necessary:

The applicant identified in Box 1 has assigned its rights to the applicant indicated in Box 2. CLARIANT INTERNATIONAL LTD remains applicant for EP and JP, CLARIANT FINANCE (BVI) LIMITED is applicant for all designated states except the EP, JP and US.

4. A copy of this notification has been sent to:

☒ the receiving Office ☒ the designated Offices concerned
☐ the International Searching Authority ☐ the elected Offices concerned
☐ the International Preliminary Examining Authority ☐ other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 338.70.60	Authorized officer M. OUCHOUKHI Telephone No. (41-22) 338 8566
--	--

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION CONCERNING
SUBMISSION OR TRANSMITTAL
OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

To:

DÜNNWALD, Dieter
Clariant International Ltd
Rothausstrasse 61
CH-4132 Muttenz 1
Switzerland

Date of mailing (day/month/year) 24 February 2005 (24.02.2005)	
Applicant's or agent's file reference 2004CH006	IMPORTANT NOTIFICATION
International application No. PCT/IB2005/000407	International filing date (day/month/year) 17 February 2005 (17.02.2005)
International publication date (day/month/year) Not yet published	Priority date (day/month/year) 05 March 2004 (05.03.2004)
Applicant CLARIANT INTERNATIONAL LTD et al	

- By means of this Form, which replaces any previously issued notification concerning submission or transmittal of priority documents, the applicant is hereby notified of the date of receipt by the International Bureau of the priority document(s) relating to all earlier application(s) whose priority is claimed. Unless otherwise indicated by the letters "NR", in the right-hand column or by an asterisk appearing next to a date of receipt, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
- (If applicable) The letters "NR" appearing in the right-hand column denote a **priority document which, on the date of mailing of this Form, had not yet been received by the International Bureau** under Rule 17.1(a) or (b). Where, under Rule 17.1(a), the priority document must be submitted by the applicant to the receiving Office or the International Bureau, but the applicant fails to submit the priority document within the applicable time limit under that Rule, **the attention of the applicant is directed** to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
- (If applicable) An asterisk(*) appearing next to a date of receipt, in the right-hand column, denotes a **priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b)** (the priority document was received after the time limit prescribed in Rule 17.1(a) or the request to prepare and transmit the priority document was submitted to the receiving Office after the applicable time limit under Rule 17.1(b)). Even though the priority document was not furnished in compliance with Rule 17.1(a) or (b), the International Bureau will nevertheless transmit a copy of the document to the designated Offices, for their consideration. In case such a copy is not accepted by the designated Office as priority document, Rule 17.1(c) provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
05 Marc 2004 (05.03.2004)	04005210.2	EP	17 Febr 2005 (17.02.2005)

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 338.70.60	Authorized officer Hortensia SANTIAGO (Fax : 338 70 60) Telephone No. (41-22) 338 9588
--	--

PATENT COOPERATION TREATY

PCT

ACKNOWLEDGEMENT OF RECEIPT OF
DOCUMENTS FILED WITH THE
INTERNATIONAL BUREAU
AS RECEIVING OFFICE

To:

DÜNNWALD, Dieter
Clariant International Ltd
Rothausstrasse 61
CH-4132 Muttenz 1
SUISSE

Facsimile No.: +41 61 469 65 88

Date of mailing
(day/month/year)

18 February 2005 (18.02.2005)

Applicant's or agent's file reference

2004CH006

IMPORTANT COMMUNICATION

International application No.

PCT/IB2005/000407 ✓

Date of receipt (day/month/year)

17 February 2005 (17.02.2005) ✓

Applicant

CLARIANT INTERNATIONAL LTD

Title of the invention

CONCENTRATED OPTICAL BRIGHTENER SOLUTIONS

1. The International Bureau has received the document/elements listed below on 17 February 2005 (17.02.2005)
by the following means: surface mail

- ☒ PCT Request (4 pages)
- ☒ description (excluding sequence listing part) (9 pages)
- ☒ claims (3 pages)
- ☒ abstract (1 page)
- ☒ drawings (1 page)
- ☐ sequence listing part of description
- ☒ fee calculation sheet
- ☐ separate authorization to charge deposit account
- ☐ cheque
- ☐ cash (in person only)
- ☒ power(s) of attorney (copy of general power: 1; separate power: 1)
- ☐ statement(s) explaining lack of signature
- ☒ priority document 1 ✓
- ☐ separate indications concerning deposited micro-organism or other biological material
- ☐ sequence listing in computer readable form.
- ☐ statement accompanying diskette containing sequence in computer readable form
- ☐ accompanying letter
- ☐ form PCT/RO/198 (RO/IB)
- ☒ PCT-EASY diskette
- ☐ other (specify):

The applicant's attention is drawn to the fact that these papers have not yet been checked by this receiving Office in respect of their compliance with the requirements of Article 11(1), that is, whether these papers meet the requirements necessary for the according of an international filing date. As soon as these papers have been checked, the applicant will be informed accordingly.

2. Additional observations (if necessary):

Name and mailing address of the receiving Office

International Bureau of WIPO
PCT Receiving Office Section
34, chemin des Colombettes, 1211 Geneva 20, Switzerland
Facsimile No. (41-22) 910 08 10

Authorized officer

Peter Tholle
Telephone No. +41 22 338 91 15

PCT REQUEST

Original (for SUBMISSION)

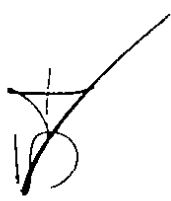
0	For receiving Office use only	
0-1	International Application No.	
0-2	International Filing Date	
0-3	Name of receiving Office and "PCT International Application"	
0-4	Form PCT/RO/101 PCT Request	
0-4-1	Prepared Using	PCT-SAFE [EASY mode] Version 3.50 (Build 0002.163)
0-5	Petition The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty	
0-6	Receiving Office (specified by the applicant)	International Bureau of the World Intellectual Property Organization (RO/IB)
0-7	Applicant's or agent's file reference	2004CH006
I	Title of Invention	CONCENTRATED OPTICAL BRIGHTENER SOLUTIONS
II	Applicant	
II-1	This person is	applicant only
II-2	Applicant for	all designated States except US
II-4	Name	CLARIANT INTERNATIONAL LTD
II-5	Address	Rothausstrasse 61 4132 Muttenz 1 Switzerland
II-6	State of nationality	CH
II-7	State of residence	CH
II-8	Telephone No.	+41 61 469 5245
II-9	Facsimile No.	+41 61 469 6588
II-10	e-mail	caroline.johnson@clariant.com

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PCT REQUEST

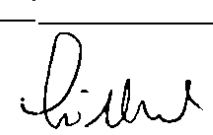
Original (for SUBMISSION)

III-1	Applicant and/or Inventor	
III-1-1	This person is	applicant and inventor
III-1-2	Applicant for	US only
III-1-4	Name (LAST, First)	JACKSON, Andrew Clive
III-1-5	Address	25 WALTON PARK HARROGATEHG3 1EJ United Kingdom
III-1-6	State of nationality	GB
III-1-7	State of residence	GB
IV-1	Agent or common representative; or address for correspondence The person identified below is hereby/ has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:	agent
IV-1-1	Name (LAST, First)	DÜNNWALD, Dieter
IV-1-2	Address	Clariant International Ltd Rothausstrasse 61 4132 Muttenz 1 Switzerland
IV-1-3	Telephone No.	+41 61 469 52 41
IV-1-4	Facsimile No.	+41 61 469 65 88
IV-1-5	e-mail	Dieter.Duennwald@clariant.com
V	DESIGNATIONS	
V-1	The filing of this request constitutes under Rule 4.9(a), the designation of all Contracting States bound by the PCT on the international filing date, for the grant of every kind of protection available and, where applicable, for the grant of both regional and national patents.	
VI-1	Priority claim of earlier regional application	
VI-1-1	Filing date	05 March 2004 (05.03.2004)
VI-1-2	Number	04005210.2
VI-1-3	Regional Office	EP
VII-1	International Searching Authority Chosen	European Patent Office (EPO) (ISA/EP)

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PCT REQUEST

Original (for SUBMISSION)

VIII	Declarations	Number of declarations	
VIII-1	Declaration as to the identity of the inventor	-	
VIII-2	Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent	-	
VIII-3	Declaration as to the applicant's entitlement, as at the international filing date, to claim the priority of the earlier application	-	
VIII-4	Declaration of inventorship (only for the purposes of the designation of the United States of America)	-	
VIII-5	Declaration as to non-prejudicial disclosures or exceptions to lack of novelty	-	
IX	Check list	number of sheets	electronic file(s) attached
IX-1	Request (including declaration sheets)	4	✓
IX-2	Description	10	-
IX-3	Claims	3	-
IX-4	Abstract	1	✓
IX-5	Drawings	0	-
IX-7	TOTAL	18	
	Accompanying Items	paper document(s) attached	electronic file(s) attached
IX-8	Fee calculation sheet	✓	-
IX-9	Original separate power of attorney	✓	-
IX-11	Copy of general power of attorney	reference no. GPA 04/0048	-
IX-13	Priority document(s)	Item(s) VI-1	-
IX-17	PCT-SAFE physical media	-	✓
IX-19	Figure of the drawings which should accompany the abstract		
IX-20	Language of filing of the international application	English	
X-1	Signature of applicant, agent or common representative		
X-1-1	Name (LAST, First)	DÜNNWALD, Dieter	
X-1-2	Name of signatory		
X-1-3	Capacity		

PCT REQUEST

Original (for SUBMISSION)

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FOR RECEIVING OFFICE USE ONLY

10-1	Date of actual receipt of the purported international application	
10-2	Drawings:	
10-2-1	Received	
10-2-2	Not received	
10-3	Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application	
10-4	Date of timely receipt of the required corrections under PCT Article 11(2)	
10-5	International Searching Authority	ISA/EP
10-6	Transmittal of search copy delayed until search fee is paid	

FOR INTERNATIONAL BUREAU USE ONLY

11-1	Date of receipt of the record copy by the International Bureau	
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PCT (ANNEX - FEE CALCULATION SHEET)

Original (for SUBMISSION)

(This sheet is not part of and does not count as a sheet of the international application)

0	For receiving Office use only		
0-1	International Application No.		
0-2	Date stamp of the receiving Office		
0-4	Form PCT/RO/101 (Annex)		
0-4-1	PCT Fee Calculation Sheet Prepared Using	PCT-SAFE [EASY mode] Version 3.50 (Build 0002.163)	
0-9	Applicant's or agent's file reference		
2	Applicant		
12	Calculation of prescribed fees		
12-1	Transmittal fee T	fee amount/multiplier	Total amounts (CHF)
12-2-1	Search fee S		
12-2-2	International search to be carried out by		
12-3	International filing fee (first 30 sheets) I1		
12-4	Remaining sheets		
12-5	Additional amount (X) 0		
12-6	Total additional amount I2		
12-7	I1 + I2 = I		
12-12	EASY Filing reduction R		
12-13	Total International filing fee (I-R) I		
12-14	Fee for priority document		
	Number of priority documents requested		
12-15	Fee per document (X) 0		
12-16	Total priority document fee: P		
12-17	TOTAL FEES PAYABLE (T+S+I+P)		
12-19	Mode of payment	authorization to charge deposit account	
12-20	Deposit account instructions	International Bureau of the World Intellectual Property Organization (RO/IB)	
12-20-1	Authorization to charge the total fees indicated above	✓	
12-20-2	Authorization to charge any deficiency or credit any overpayment in the total fees indicated above	✓	
12-21	Deposit account No.	19783	
12-22	Date	18 January 2005 (18.01.2005)	
12-23	Name and signature	DÜNNWALD, Dieter 	

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PCT

1/1

Original (for SUBMISSION)

13-2-3	Validation messages Names	Green? Applicant 2: GB County missing
13-2-7	Validation messages Contents	Green? The international application contains no drawings. Please verify.
13-2-8	Validation messages Fees	Green? Please confirm that fee schedule utilized is the latest available
13-2-9	Validation messages Payment	Green? Please ensure that you have a valid deposit account with the receiving Office selected.

The instant invention relates to concentrated aqueous solutions of hexasulphonated stilbene optical brighteners which are storage-stable in the absence of solubilizing agents like urea. By removal of salts resulting from the preparation of the optical brightener one can obtain a concentration of up to 0.350 mol/kg without losing storage stability. The reduced water content enables coating compositions which require less drying energy and which show less water and binder migration into the paper.

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Industria y Comercio
SUPERINTENDENCIA

**REQUISITOS MINIMOS PARA ADMISION A TRAMITE
PCT**

PATENTE DE INVENCION

☒

MODELO DE UTILIDAD

☐

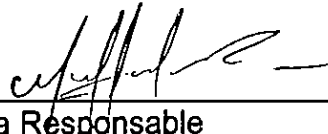
- ◆ Indicación de que se solicita la concesión de una patente ☒
- ◆ Datos de identificación del solicitante o de la persona que presenta la solicitud ☒
- ◆ Descripción de la invención ☒
- ◆ Dibujos de ser estos pertinentes ☐
- ◆ Comprobante de pago de las tasas establecidas ☒

COMPLETA ☐INCOMPLETA ☐DISEÑO INDUSTRIAL ☐

- ◆ Indicación de que se solicita el registro de Diseño Industrial ☐
- ◆ Datos de identificación del solicitante o de la persona que presenta la solicitud ☐
- ◆ Representación gráfica y fotográfica del Diseño Industrial o muestra del material que incorpora el diseño ☐
- ◆ Comprobante de pago de las tasas establecidas ☐

COMPLETA ☐INCOMPLETA ☐ESQUEMA DE TRAZADO ☐

- ◆ Indicación de que se solicita el registro de un Esquema de Trazado ☐
- ◆ Datos de identificación del solicitante o de la persona que presenta la solicitud ☐
- ◆ Representación gráfica del esquema trazado ☐
- ◆ Comprobante de pago de las tasas establecidas ☐

COMPLETA ☐INCOMPLETA ☐
Firma ResponsableFecha 23 AGO 2008

Carrera 13 No. 27-00 Piso 5, 7 y 10
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S.A.
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REPUBLICA DE COLOMBIA
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Bogotá,
2020

Doctor(a)
RODRIGUEZ DILIA MARIA

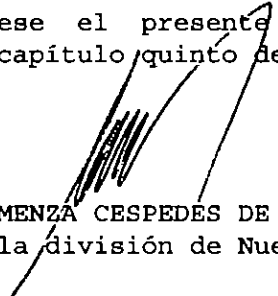
REFERENCIA Radicación No. 6 83376
 Solicitud internacional PCT/IB2005/000407
 Fecha inicio fase nacional 05/10/2006
 Trámite 11
 Evento 379
 Actuación 430
 Oficio No. 13563

Como resultado del examen de forma, realizado con fundamento en el artículo 38 de la Decisión 486 de la Comisión de la Comunidad Andina, artículo 27 del Tratado de Cooperación en Materia de Patentes (PCT), regla 51 bis del Reglamento y Circular Única de la Superintendencia de Industria y Comercio, se le comunica que:

1. Si fuere el caso, el solicitante debe adjuntar la traducción de los anexos del reporte de examen preliminar internacional (Art. 36.2.b) del tratado PCT.
2. La solicitud no contiene la copia del documento en que consta la cesión del derecho a la patente del inventor al solicitante o a su causante. (Art. 26-k) Decisión 486.
3. La solicitud no contiene el poder debidamente otorgado, con el lleno de los requisitos exigidos por los artículos 63 y subsiguientes del Código de Procedimiento Civil. Adicionalmente, deberá presentar el documento que acredita la existencia y representación legal de la sociedad solicitante, cuando ésta fuere persona jurídica.

En cumplimiento de lo dispuesto por el artículo 39 de la Decisión 486, se le requiere para que dentro del término de dos meses siguientes a la fecha de notificación del presente oficio, complete los requisitos anteriormente enunciados. En caso de no dar cumplimiento al presente requerimiento, la solicitud se considerará abandonada y perderá su prelación.

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e), del capítulo quinto del título primero de la Circular Unica No.10 de 2001.


ALIX CARMENZA CESPEDES DE VERGEL
Jefe de la división de Nuevas Creaciones

El anterior requerimiento fue notificado por fijación en lista de
fecha 24 NOV. 2006
adpall