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(A)

(51) 。 Int. Cl. 7
C09B 62/012

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(21) 10 - 2001 - 0017541
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10025303.2 2000 05 22 (DE)

(71)

- 51368

(72)

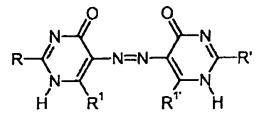
- 51375	-	-	-	19
,				
- 51373		67		
,				
- 51381		27		
,				
- 41541		13		
,				
- 51377		18		
,				
- 41542		6		

(74)

(54)

, 1 , 1
 (, 1
 Na, K, Ca, Sr, Ba, Zn, Fe, Ni, Cu, Mn L

1 >



R R' OH, NH₂, NH-CN,
R¹ R^{1'} -OH -NH₂

, ,

• 1

10 - 22392

(1998)

UV -

가 가 . (,)
, , UV - ,
, , , ,
, 3 3 . , ,

, , LCD 가
 10 - 22392 ((Toray), 1998), 10 -
 19183 ((Hitachi), 1998; Specific Pigment Colour Index Pigment Yellow 150) 10 - 19184
 (, 1998)

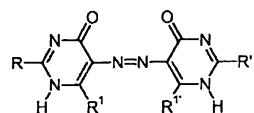
가 , 가

73463

가

, , 1
 1 (, 1
 Li, Cs, Mg, Cd, Co, Al, Cr, Sn, Pb, Na, K, Ca, Sr, Ba, Zn, Fe, Ni, Cu, Mn L
 a - , - , -)

1



R R' OH, NH₂, NH-CN,

R¹ R^{1'} - OH - NH₂

NO₂ 1 F, Cl, Br , - OH, C₁ - C₆ - , C₁ - C₆ - , - NH₂, -
 - CN

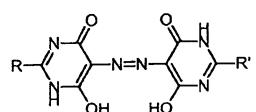
1 (C₁ - C₆ -) , C₁ - C₆ - ,
 - , C₁ - C₆ - ,
 C₁ - C₆ - , C₁ - C₆ - , C₁ - C₆ - , C₁ - C₆ - , C₁ - C₆ - ,
 Cl, Br F, - OH, - CN, - NH₂ (C₁ - C₆ -) 가 , - NH₂, - NO₂ () - CN
 , F, Cl Br, - OH, C₁ - C₆ - , C₁ - C₆ - , C₁ - C₆ - , - NH₂, - NO₂ () - CN
)

, 1
 () 2 , 1

가

, 1 , 1 , 2)

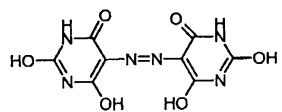
2



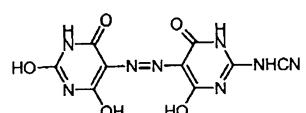
, R R' OH NHCN

, 2 , , (,
 2a 2c)

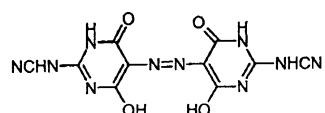
2a



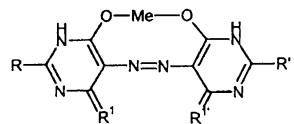
2b



2c



1, 2a 1 2
 1 1a 1:1

1a

Me

R R'

R¹ R^{1'} =O =NH

2가 4가 1, 1a, 2a, 2b, 2c

1:1 2a

1

()

가

25 , 1 bar)

100 ,

150

OH, COOH, NH₂, NH₂, CONH₂, CONH₂, SO₂NH₂, SO₂NH₂,
₂, SO₃H, NO₂, CN, -SO₂- , -SO₂- , -O- , -O- , -O- ,
 가 .

F, Cl, Br, -OH, C₁ - C₆ - , C₁ - C₆ - , -NH₂, -NO₂ () -CNC₁ - C₆ - , , , , -OH, -CN, -NH₂ () C₁ - C₆ -

C₁ - C₆ - , C₁ - C₆ - , , Cl, Br, F, C₁ - C₆ - , -OH, -
 CN NH₂ C₃ - C₇ - , C₅ - C₆ - .

NO₂ () -CN 가 , F, Cl, Br, -OH, C₁ - C₆ - , C₁ - C₆ - , -NH₂, -
 -C₁ - C₄ - .

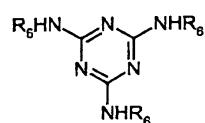
가

, ,), , , ; , - , - 6 - , , , 6 - - 1,3,5 , - 2,4 - , 6 - - 1,3,5 - - 2,4 - , .

[K. Lindner, Tenside - Textilhilfsmittel - Waschrohstoffe, 2, 1, Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart, 1964]

3 가

3



, R₆ , OH

$$C_1 - C_4 - \dots ,$$

R₆

%	. 10	100	%	가	.	5	200	
				가	.	가		
				가	.	가		
	,					10	150	%

$y \mapsto$, 1 . x

DIN 53 238

$$x = 0.38 \quad 0.72, \quad 0.4 \quad 0.7$$

$$\gamma = 0.14 \quad 0.55, \quad 0.17 \quad 0.49$$

$$x = \frac{X}{X+Y+Z}, y = \frac{Y}{X+Y+Z} \quad (X, Y, Z \in \mathbb{R})$$

[Bayer Farben Revue, Sonderheft 3/2 D, 1986; p. 12 - 14]

, 가
0 074 515 0 073 463

0 073 464

20 가 20 g/l , 50 g/l ,

가

19 847 586

()

가 250, pH 1, 4,
1 3, 1.5 2.5, pH 9, 13,
90 140, 95 110, 10 11, 80 180,

1 , 1

가 가

a)

b) , , , , pH 20 1 g/l , 0.1 g/l

(b) , 150 , , 150 , , 100 , 100

6 22 , , , ,

(b) (b)

(b)

a) 1 50 99 %,

(a) , (b) 1 1 100 %, 2 50 %

(c) 가

(c) , , ,

, () ,

$$C_6 - C_{22} \quad , \quad 5 \quad 120 \quad , \quad 5 \quad 60 \quad , \quad 5 \quad 30$$

가 , , , , . 1,000 , 100,000 g/
80 % , 가 가

a1) 6 22 ()

b1) 4 12

c1) 14 20 ()

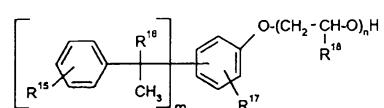
d1) 14 20 () ,

e1) () 가

가 , 5 120, 5 100, 5 60, 5 30
a1) e1) .

10	19 712 486	19 535 246
	,	11
10	10	-

10



R^{15} , $C_1 - C_4 -$, ,
 R^{16} CH_3 , ,
 R^{17} , $C_1 - C_4 -$, $C_1 - C_4 -$, $C_1 - C_4 -$, ,
 m 1 4 ,
 n 6 120 ,
 R^{18} n
 $-CH(R^{18})-O-$ $CH_3 \text{ 가}$ R^{18} n 0 , CH_3 60% CH_3 n 0 , , 100
 100 60% R^{18} n 0 40% n
 10 11 .
11

 $R^{15'}, R^{16'}, R^{17'}, R^{18'}, m' n'$ $R^{15}, R^{16}, R^{17}, R^{18}, m n$, ,
 $X - SO_3, - SO_2, - PO_3 - CO - (R^{19}) - COO$, ,
 $Kat H^+, Li^+, Na^+, K^+, NH_4^+ HO - CH_2 CH_2 - NH_3^+$, , $X \text{ 가} - PO_3$
 $R^{19} 2\text{가}$, , $C_1 - C_4 -$, , 1 $C_2 - C_4$, ,
 $($ $C_1 - C_4 -$, $C_1 - C_4 -$, $C_1 - C_4 -$, $C_1 - C_4 -$
 $)$.
 11 19 712 486 , 10 11
 $19 535 256$,
 11 11 . $X \text{ 가} - CO - (R^{19}) - COO -$, $R^{19} \text{ 가}$
 11 .
 11 5 99 % 10 10 1 95 11 %
 (c) (a) 0.1 100 %, 0.5 60 %

, 1 1 가 . . , 가
,

가

1 1

- 1 ,

, ()

(a) 1 1 50 %,

0 20 %,

0 20 %,

10 94

10 94 %

0.1 10 μ m

가

가 :

(a)

1

1

,

(a)

1

Ca, Mg Al

AS,

가

12, 13, 14, 17, 20, 24, 74, 83, 86, 93, 94, 109, 110, 117, 125, 137, 138, 139, 147, 148, 150, 153, 154, 166, 173, 185,

13, 31, 36, 38, 40, 42, 43, 51, 55, 59, 61, 64, 65, 71, 72, 73,

9, 97, 122, 123, 144, 149, 166, 168, 177, 180, 192, 215, 216, 224, 254, 272,

7, 10, 36, 37, 45,

15, 15:1, 15:2, 15:3, 15:4, 15:6, 16

19, 23.

" " 가 , 1 , 1

1 99 %, 5 60 % .

(a)

가

11 217 514

가

14

	(
가	200 3,000, 230 1,000
	20 300, 40 200
	1,500 200,000, 10,000

$$1 \qquad \qquad \qquad 1 \qquad \qquad \qquad , \qquad 1$$

2 N- 가

[Roempp, Lexikon, Lacke und Druckfarben, Dr. Ulrich Zorll, Thieme Verlag Stuttgart - New York, 1998, p. 491/492]

가

가

()

[Roempp L

exikon, Lacke und Druckfarben, Dr. Ulrich Zorll, Thieme Verlag Stuttgart - New York, 1998, p. 445/446]

a) 1

가

, 1

1

b1) 1

,

b2) 1

,

c1)

,

d)

,

e)

,

가 가

가

< >

< 1>

, Me=Ni, R¹=R^{1'}=O, R=R'=OH

1a

	25 g,	200 ml, 10 N	20 ml		1.25 g	30
30	60 g	가 , 100 ml		30 g		34 ml
	가	.		30		

10N 5 ml
pH 8 38.2 g 10 , 10N 33 ml
pH 4.
8 , 70 50 2 , 80 3 , 가
8 , 22 g
95 100 가 , , 1

500 ml . 80 , 100 ml NiCl₂ - 6H₂O 34.5 g
 13 g 5 가 . 80 1 , 80 1 , 90 2 ,
 42 g , 80 1 , 90 2 ,
 42.6 % 가 .
 , DIN 53238 (x, y () 3 Y ())
 x=0.438, y=0.464, Y=58.38 .

< 2> , Me=Ni, R¹=R^{1'}=O, R=R'=OH 1a
 780 g - 10 136 g , 810 g , 15 가 (30%) 280 g . . . , 232 g
 . , 15 15 , 2 2.0 g
 pH 2.5 269 g 가 , 55 가 , 30 30 , 80 가 , pH 4.8 3 pH 4.8
 . 30 , . , . , . , 40
 . , . , . , . ,
 334 g

1 \times 1H₂O C28.4 H2.1 N24.8 K11.6

C27.8 H2.4 N24.3 K12.0

(DSC) . DSC 20 (Mettler) DS
 C . 3 가 10 K/ 가 .
 , 135 (135
 DSC ± 10). (Fourier) IR
 1

425 g
40%
95 1.5
1 126 g
19 945 245
*HSO
, 6.5%
pH 5.5
80
1060 g
5,000 ml
170 g
1060 g
288 g

, DIN 53238 (x, y () 3 Y ())
 $x=0.435, y=0.467, Y=60.71$

< 3>

1

1 8.3 kg 25 kg
, 70 가 , pH 8.8
32.5 kg 19.1 kg
30

, 70 9.4 kg 가 , pH 8.8
5 % 19 801 759 , () 10
11
0 30 , , pH 2.0 % , 7
60 , pH 5.2 , 2 70 , 30

35 , , 가 600 μ Si/cm 30

1 39 % 가 . 70
1 % ,

, DIN 53238 (x, y () 3 Y ())
 $x=0.442, y=0.465, Y=57.52$

< 1>

25,000 g/ , ((Butoxyl:), (Hoechst AG)) 774
- 가 (70)/2 - (15)/ (15)
1 % 70 , 1 100

50 nm (0.5 %) 1
mm 0.14 ((0.6 1.0
95% 가 100 nm 1%
)

< >

1,000 () 34.5
 3/1 N,N' - - 4,4' - 13.8
 가 .

UV -

, (Corning:) 7059, (Owen
 s Corning Corp.)) 300 × 350 mm 110
 1.5 2 μm .

, 200 mJ/cm² UV - , 0.06%
 , , 235 30 .

가

가

LCD

, 250 1
 (Cielab) E 0.7

, (Isoderm^R Glanz TS, (Bayer AG)) 10 g 0.7 g
 (HP Premium^R Ink jet, (Hewlett Packard)) ,

, DIN EN 105B02 500
 E :

: E = 18.7

: E = 10.5

< 2>

2

1

1

가

E

:

: E = 10.1

: E = 8.3

< 3 >

$$(\quad 1 \quad (\quad) \quad 3 \quad 1$$

, , , , ,

< 4 >

1 100 2 40 Helio
gen^R Gruen L 9361 (Pigment Green 36, (BASF AG)) 60 1

5>

, Me=Zn, R¹=R'¹=O, R=OH, R'=NHCN 1a

0.3 2 , ZnCl₂ 0.31 가 . 95 pH 5 3
 . 500 ml , 6,700 - -
 (Tetronic^R T 904,) 40 g , 50 가 .
 , 95 2 . , , 2 , 12
 DIN 53238 -

$x = 0.561$, $y = 0.365$, $Y = 26.05$

67

. Me=Zn, R¹=R'¹=O, R=OH, R'=NHCN 1a

x = 0.558, y = 0.358, Y = 21.2

< 7>

, Me=La, R¹=R^{1'}=O, R=OH, R'=NHCN 1a

$x = 0.540$, $y = 0.344$, $Y = 16.6$

8>

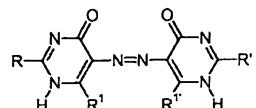
, Me=Ba, R¹=R^{1'}=O, R=OH, R'=NHCN 1a

$x = 0.493, y = 0.334, Y = 11.4$

1
 ()
 < 9>
 , Me=Ca, R¹=R^{1'}=O, R=OH, R'=NHCN 1a
 :
 5 0.3 2 , CaCl₂ · 2H₂O 0.3
 . 95 pH 5 3
 500 ml 1,650 (Tetronic ^RT 304,
) 40 g , 50 2 , 12 ,
 . , 2 , ,
 . DIN 53238 ,
 .
 .
 .

$x = 0.541, y = 0.353, Y = 27.63$

1
 ()
 (57)
 1.
 , 1 (, 1 Li, Cs,
 Mg, Cd, Co, Al, Cr, Sn, Pb, Na, K, Ca, Sr, Ba, Zn, Fe, Ni, Cu, Mn La , - ,
)
 < 1>



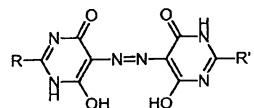
R R' OH, NH₂, NH-CN,

R¹ R^{1'} - OH - NH₂.

2.

1 , 1 2

< 2>



, R R' OH NH₂

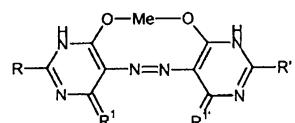
3.

1 , , () , () , () , () , ()

4.

1 , 1a 1:1

< 1a>



Me 1 ,

R R', R¹ R^{1'} 1

5.

1 , x y :

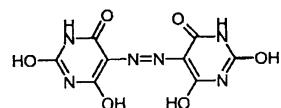
x = 0.38 0.72

$y = 0.14$ 0.55.

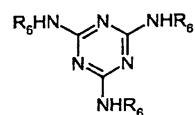
6.

1 , - 1:1 , 2a ,
3 1 , 가 .

< 2a>



< 3>



, R6 , OH C1 - C4 - .

7.

1 , 1, 2, 2a, 2b, 2c 1 2 ,

8.

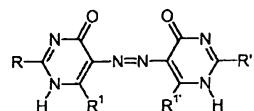
1 , 2a 1 2

9.

a) 1 , 1
1 (, 1 Li, Cs, Mg, Cd, Co, Al, Cr, Sn, P
b, Na, K, Ca, Sr, Ba, Zn, Fe, Ni, Cu, Mn La - , - , -
) ,

b) , , , , 20 가 1 g/l , 0.1 g/l
() 1

< 1>



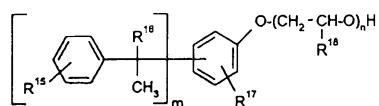
R R' OH, NH₂, NH-CN,

R¹ R^{1'} - OH - NH₂.

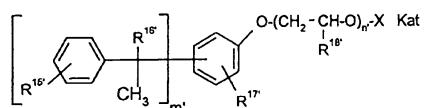
10.

9 , 10 () 11 1 a) 1
100 %, 0.5 60 % 가 .

< 10 >



< 11 >



R¹⁵ C₁ - C₄ - ,

R¹⁶ CH₃ ,

R¹⁷ , C₁ - C₄ - , C₁ - C₄ - , C₁ - C₄ - ,

m 1 4 ,

n 6 120 ,

R¹⁸ n
- CH(R¹⁸) - O -) CH₃ 가 R¹⁸ n 0 , CH₃ , , 100 , 40% - (- CH₂ - CH(R¹⁸) - O -) R¹⁸ n 0 40% n
100 60% ,

R^{15'} , R^{16'} , R^{17'} , R^{18'} , m' n' R¹⁵ , R¹⁶ , R¹⁷ , R¹⁸ , m n ,

X - SO₃ , - SO₂ , - PO₃ - CO - (R¹⁹) - COO ,

Kat H, Li, Na, K, NH₄ HO - CH₂ CH₂ - NH₃ , , X 가 - PO₃ , Kat ,

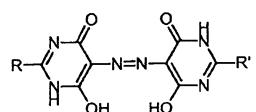
2

R^{19} 2가 , , , $C_1 - C_4 -$, 1 , $C_2 - C_4$, , ,
 , , , () , , , $C_1 - C_4 -$, $C_1 - C_4 -$, , ,
) .

11.

9 , 1 2 , , () , () ()

< 2>

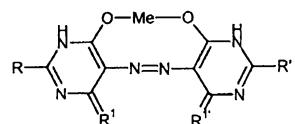


, R R' OH NHCN

12.

9 , (a) 1a 1:1

< 1a>

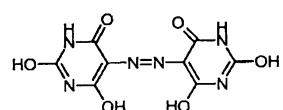


,
Me 1 , ,
R R', R¹ R^{1'} 1

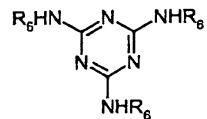
13.

9 , (a) , 가 3 , - 1 1:1
 2a

< 2a>



3 >



, R₆ , OH

C₁ - C₄ -

14.

9

15.

16.

$$1 \quad , \quad 1 \quad , \quad 1 \quad , \quad 1 \quad , \quad 1 \quad , \quad 1$$

17.

18.

$$1 \qquad \qquad \qquad , \qquad 1 \qquad \qquad 1 \qquad \qquad 1$$

19.

18 1

20.

, , , , , 1 , 1 , 1

21.

20

,

가

가

.

专利名称(译)	液晶显示器滤色片中的有机颜料		
公开(公告)号	KR1020010095243A	公开(公告)日	2001-11-03
申请号	KR1020010017541	申请日	2001-04-03
[标]申请(专利权)人(译)	朗盛德国有限责任公司		
申请(专利权)人(译)	赛斯是德意志密封剂geem BEHA		
当前申请(专利权)人(译)	赛斯是德意志密封剂geem BEHA		
[标]发明人	WOLF MICKEY 올프마이키 RICHTER ROLF 리히터롤프 FAUBION KENT 포비온켄트 HERRMANN UDO 헤르만우도 WITT JOSEF 비트요제프 NYSSEN PETER ROGER 니센피터로저		
发明人	올프,마이키 리히터,롤프 포비온,켄트 헤르만,우도 비트,요제프 니센,피터 로저		
IPC分类号	G02F1/1335 C09B67/22 C09B62/012 C09B45/22 C09D11/00 C09B67/20 G03F7/00 G02B5/22 G02B5/20 C09B45/14 G03F7/004 C09B62/12		
CPC分类号	G03F7/0007 C09B67/0033 C09D11/32 C09D11/328 C09B45/14		
代理人(译)	KIM , YOUNG		
优先权	10016665 2000-04-04 DE 10025303 2000-05-22 DE		
其他公开文献	KR100786964B1		
外部链接	Espacenet		

摘要(译)

本发明涉及液晶显示器的滤色器中的颜料，其包含根据下列通式(1)化合物之一的偶氮化合物的金属络合物或其互变结构，其承载至少一种客体化合物，1，金属化合物Li，Cs，Mg，Cd，Co，Al，Cr，Sn，Pb，特别优选Na，K，Ca，Sr，Ba，Zn，Fe，Ni，单-，二-，三-和四阴离子)。-1-<式1>在上式中，R和R'独立地为OH，NH₂，NH-CN，酰氨基或芳氨基，R₁和R₂独立地为-OH或-NH₂。指数方面 液晶显示器，滤色片，偶氮化合物的金属络合物颜料

