

(19)
(12)

(KR)
(A)

(51) 。 Int. Cl. ⁷
C25D 3/30

(11)
(43)

2002 - 0003104
2002 01 10

(21)
(22)

10 - 2001 - 0039301
2001 07 02

(30)

60/215,664

2000 07 01

(US)

(71)

,

01752

455

(72)

- 8712

28

- 1602

13

- 6010

32

- 6006

14

(74)

:

(54)

α, β

π

/

가

efiner) 가 (grain r
가

(soldering) (reflowing)
(finish) , 183 (Sn - Pb
)
(liquidus) 가

가 , - , - , -

2 (1) (
) , (2) () (3)
가 ((leveler agent))
, 5,174,887 () 20

1 7 6

6,176,996 ()

가

가 가

가

가

(bump)
(optoelectronic devices)

가

가

(
가

π

1 - 2

)

α, β

가

, 2

pK_a

(stabilizer additives)

2

10,000mg

50

가

2000mg

가

가

3,118

CPVS

가

(CVS)

5,252,196

5,22

/

(grain refiner/stabilizer additive)

가

π

(

-

1 - 2

)

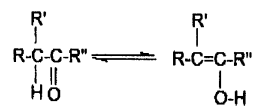
-

α, β

가

, 2

IA - IB



케 토 형 태

엔 올 형 태

(R'' H, , OR)

C=C, C - O O - H

C - H, C - C C=O

(tautomerism)

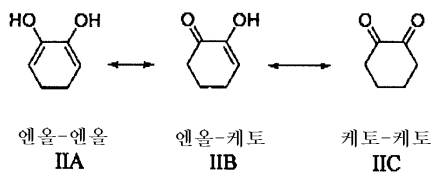
Advanced Organic

Chemistry, J. March, 4th ed., John Wiley & Sons, 1992,

70 - 74 585 - 587

(tautomer)

IIA - IIC

pK_a

pH

(IV)

(IV)

(plating - out)

(electroless)

2

10,000mg
2mg

50

2000mg

가

가

가 ,

ling) (shaking) .

70g/L

2 100g/L , 10

2 60g/L, 5 20g/L ,

20 100g/L, 40

70g/L , 5 50g

/L, 10 30g/L . 2 100g/L ,

[illegible]

0.1 3 g/L
0.01 5 g/L, 0.02 2 g/L
, 0.5 10 g/L, 0.5 5 g/L
가 2가 가
가 , , ,
4,871,429
0.1 g/L 5 g/L

가

0.5 3 g/L, 1 2 g/L

가

0.05 1.0 mg/L

1 1.5 mg (1.5 mg/L) 1.75 mg/L, 2, 2.5, 3, 3.5 4 mg/L

10 g/L, 0.1 15 g/L, 0.5

가

0 ° F(43 44)

가

000 g/L, 0.25 10 g/L, 0.5 8 g/L

200 100,000, 900 20, 15

2 1

가, Chekmax 가 BASF(BASF Chemax Tetronic 1800 Pluronic M_w)

가 가 가 가 가

W, TRITON QS - 15 JEFAMINE T - 403 TRITON R

g/L, 0.5 8 g/L, 1 5 g/L 0.01 20

/ 가

7 1 pH

2.5 4.5 pH , pH pH 2.5 p
 가
 4.5 pH
 H -

Flow rate (gpm)	Temperature (°F)	Pressure (psi)	Flow rate (gpm)	Temperature (°F)	Pressure (psi)
60	150 ° F (156 ° F)	25	70	125 ° F (21 ° F)	52
75	120 ° F (23 ° F)	49			
		/			
	(air sparger),		(work piece agitation),		(impingement)
1	2000 ASF (0.1 200 ASD)				
1	40 ASF,	1	30 ASF		
				10	60 ASD
1	15			5	1

[illegible]

1()

(Stannous Methanesulphonate) 40 g/L

200 mL/L

2 g/L

1 g/L

14.5 mA/cm² (DC, 35) 가 .

$$2(\quad - \quad ; \quad \text{CD} \quad)$$

1 가

.

() 20 g/L

() 0.5 g/L

3 g/L

50 mL/L

2 g/L

0.6 g/L

0.3 g/L

3(- ; CD)

1 가

.

() 50 g/L

() 1.5 g/L

6 g/L

200 mL/L

2 g/L

0.25 g/L

3 - - 1,2 - 0.25 g/L

4(-)

1 가

.

() 60 g/L

() 2 g/L

200 mL/L

4.5 g/L

1g/L

(57)

1.

가 ,

,

(delocalized)

 π

/

2.

1

,

.

3.

1

,

가

.

4.

1

,

-

 α, β

(

conjugated)

.

5.

1

,

.

6.

1

,

-

.

7.

6

,

-

.

8.

7

,

-

(functionality)

.

9.

1

,

/

가

1

2 mg

10,000 mg

.

10.

1 , / 가 1 50 mg 2000 mg

11.

1 , 가 .

12.

1 , 가 .

13.

1 , 가 (leveler agent) .

14.

1 , .

15.

가 , , π
/ 가 (solderable finish) .

16.

15 , .

17.

15 , - α, β

18.

15 , / 가 1 2 mg 10,000 mg

19.

15 , 가 1 50 mg 2000 mg .

20.

15 , 가 .

21.

15 , 가 .

22.

15 , 가 .

23.

15 , .

24.

15 , .

25.

가 , , π
/
.

26.

25 , , (optoelectronic device), ,
, , (contact), , , , .