

(19) (KR)  
(12) (A)

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C08F 16/06

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(43)

10-2004-0069180  
2004 08 04

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WO 2003/054029

(86) 2002 12 16

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2003 07 03

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2001 12 21

(US)

60/420,441

2002 10 22

(US)

(71)

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141

(72)

06804

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10901

1

10598

2108

10598

337

36609

4320

10522

200

4

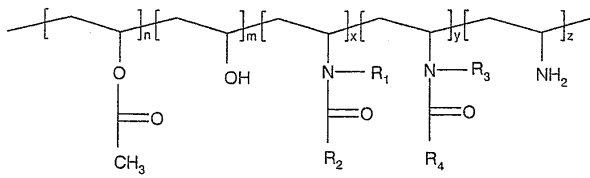
(74)

:

(54) ( )- ( - )

, l ( )- (N- )

l



l ,

n 0 20mole% ,

m 50 97mole% ,

x 0 20mole% ,

y 0 20mole% ,

z 0 2mole% ,

x + y 3 20mole% ,

R<sub>1</sub> R<sub>3</sub> H, 3- C<sub>1</sub>-C<sub>6</sub> 2- -3-

R<sub>2</sub> R<sub>4</sub> H C<sub>1</sub>-C<sub>6</sub> .

( )- ( - ) , , , , , ,

( )- ( - )

office) 가 (presentation)( ), (home 가

가

가

( ), ( )

( )

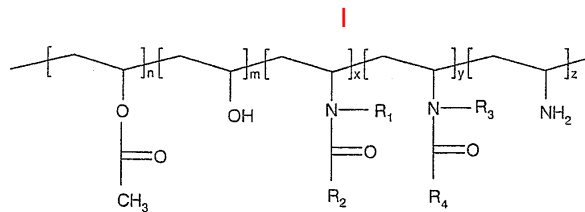
가

( )  
 rinting Paper (TAPPI Journal, January 1997, pp. 68-70)

[ : Using Polyvinyl Alcohol In Ink-Jet P

가  
 ( : , , , , ) 가 ( : , NO<sub>x</sub>, SO<sub>x</sub>)  
 가 ( : , NO<sub>x</sub>, SO<sub>x</sub>) /  
 가  
 4,617,239 , 5,662,997 , 5,710,211 ( )  
 ,  
 4,503,111 , 가  
 4,575,465 , , 가 /  
 4  
 4,935,307 , (a),  
 (b) (c)  
 5,206,071 , , , 가 4  
 6,127,037 , ,  
 WO 0037259 , , , 가  
 4,880,497 4,978,427 , 2 30 N-  
 10 90mole% , 2 가 100mole%  
 가  
 ( : , ) 가 ( 가 가  
 ) ( : 가 )  
 5,194,492 5,300,566 , ( N-  
 가 - - ) , 2 ( - - )  
 ( )  
 0 869 010 , 1 2 N- -t- ,  
 N- , 가 ( - - )  
 6,060,566 , ( ) ( - - ) N-  
 , 가 (N- ) 1 100%  
 . 가 가 ( , )

, 가 (size promoter),  
 5,798,173 , N- , 가  
 20mole% 가  
 01024784 07084091 , (N- ) 가 가 [ (N- - - )]  
 HCl) 가 , N- ( : 가  
 09302595 , N- 가  
 11129609 , N- , N-  
 6,096,826 , ( ) 가  
 5,463,110 5,672,731 , N- ( )- 가  
 가 (Michael Addition) 3-N- 3-N-  
 -2-  
 2002220558 ,



l ,  
 n 0 20mole% ,  
 m 50 97mole% ,  
 x 0 20mole% ,

y 0 20mole% ,

z 0 2mole% ,

x + y 3 20mole% ,

R<sub>1</sub> R<sub>3</sub> H, 3- C<sub>1</sub>-C<sub>6</sub> 2- -3-

R<sub>2</sub> R<sub>4</sub> H C<sub>1</sub>-C<sub>6</sub> .

, n 0 15mole% .

, 3 n- , , , n- , n- , 2 , 3 , ,

PVOH/NVF .

PVOH/NVF 5,194,492 , , 5,300,566

가 III PVOH/NVF ( , )- (N- 5,300,566 , 4

PVOH/NVF 10,000 , , (M<sub>w</sub>) 10,000 300,000 .

30,000 130,000 , n 0 15mole% , m 65 90mole% , x가 0 (M<sub>w</sub>) 20mole% , y가 0 20mole% , z가 0 2mole% , x + y가 3 20mole% .

, n 0 5mole% , m 75 90mole% .

, n 0 20mole% , m 65 97mole% , x가 3 20mole% , y가 0 , z가 0 2mole% , x + y가 3 20mole% .

% , n 0 5mole% , m 75 97mole% , x가 3 20mole% , y가 0mole% , z가 0 2mole% , x + y가 3 20mole% , R<sub>1</sub> R<sub>2</sub> 가 H .

PVOH/NVF

가  
( : ( ) (PET)),  
( : )

가  
( )  
/  
(N- ) (N- )  
474,843  
4  
, N,N- (Mannich)  
AEA - MeCl - q), N,N- (DADMAC) 4 (DM

가  
( ) 가 가  
가 3  
( ) 0.1 90 %

가 가  
pH  
, 4 , Ca, Ba, Mg

5,782,963

5,855,655

가 가 (HALS) 가

가 가  
 3 -3- -4- ) - (3,5- -4- - (5-3 -4- -  
 ) - (3,5- -3 -4- )  
 , N,N'- -p-

UV H- 2-(2- )-2H- -2  
 , 2- , , 4-3 -  
 , N-H, N- , N- , N- , N- , N- N-

6,254,724

6,254,724

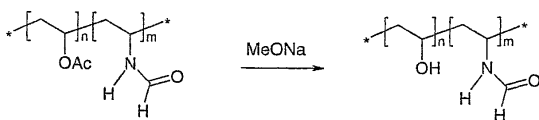
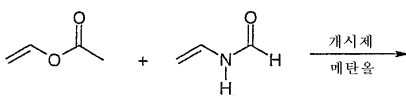
, UV

(Meyer bar coating),  
 aophic coating), (curtain coating), (doctor coating), (flexogr

가

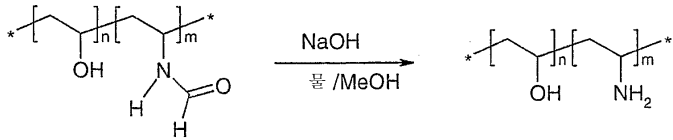
0.5 30 μ 가 1 μ 가 12 500 μ 가

P1



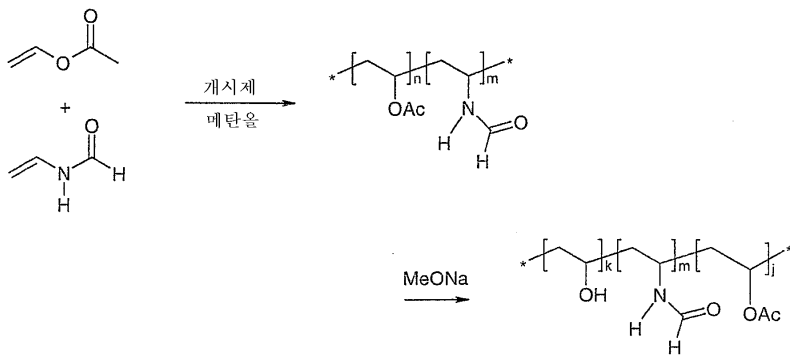
가 3 (525g, 6.1mole), N-가 60 (45g, 0.63mole) 가 , (332g, 10.4mole)  
 3 (5.5g, 0.023mole) 15 가 . N- 30mL  
 (720g, 8.36mole) 4 가 . 가 (80g, 1.13mole)  
 15 (39.6g, 1.24mole) (0.5g, 0.007mole) 가가  
 가 ( 40mL 8g) 1  
 가 . (GPC) , 146,000 580g , .

P2



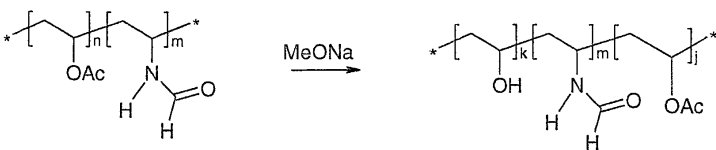
P1 (300g) (1,500g, 46.9mole) 가 가  
 가 . 50% 1:1 가 . 60 가 ,  
 6 1.5L (GPC) 107,000 280g

P3



가 3 (1,000g, 11.6mole), N-가 60 (20g, 0.28mole) 가 , (395g, 12.4mole)  
 3 (0.6g, 0.0025mole) 15 가 . N- 25mL  
 2mole) (600g, 6.98mole) 4 가 . 가 (30g, 0.4  
 15 (39.6g, 1.24mole) (0.5g, 0.007mole) 가가  
 가 ( 40mL 8g) 1  
 가 . (GPC) , 204,000 690g , .  
 1 HNMR : -OH (80mole%), -C(=O)CH<sub>3</sub> (14mole%) -N(H)C(=O)H(6  
 mole%).

P4



P3 가 (GPC) , P3 (212g) 가 가 (200g)  
 : -OH (93mole%), -C(=O)CH<sub>3</sub> (1mole%) -N(H)C(=O)H(6mole%).  
 1 HNMR



P5 (PVP)  
 (173g) 가 5 가 .  
 , 80 가 . 2,2' - ( ) 가 .  
 3 3.5 가 1 80 (150g) (150g) 가 (0.75g) 가 , 가 ,  
 VT, 20rpm, 3] 50ppm 30% 가 250cp[ (Brookfield) R

A1  
 (Nippon Goshei) (Imagel 8396, Kind Knox) [PVOH, KH20,  
 (PVP) P5  
 가 : (90g) 80 가 , 45 가 (10g) ,  
 : (90g) 가 , 20 가 (10g) 가 .  
 60 가 . , 가 ,  
 μ , 20

HP 970 Cxi  
 CIELAB (L \*, a \*, b \*) X-Rite TR938  
 Atlas Ci65 340nm 0.35W/m<sup>2</sup> 가  
 가 50 , (% OD) CIELAB E OD 가 50%  
 X-Rite E  
 (( - / ) x 100) = % OD  
 [( L) <sup>2</sup> + ( a) <sup>2</sup> + ( b) <sup>2</sup> ] <sup>1/2</sup> = E  
 DE 가 E(DE)  
 (50% , )  
 96 DE

PVP 18.1

9.1

P2 4.7

P4 4.3

P1 2.9

---

(100% , )

96 DE

PVP 18.0

13.7

P4 4.8

P2 4.2

P1 1.2

---

(50% , )

96 DE

PVP 38.3

PVOH 17.5

14.9

P2 13.1

P4 10.0

P1 8.9

---

(100% , )

96 DE

PVP 33.0

P2 12.1

PVOH 11.8

11.7

P4 7.5

P1 6.3

---

(50% , )

96 DE

PVP 17.3

12.7

P2 9.6

P4 9.5

P1 8.0

(100% , )

96 DE

PVP 28.9

17.7

P1 12.0

가 . ( % OD )  
OD 가

(50% , )

96 % OD

PVP 39.6

18.1

P2 9.7

P4 8.6

P1 5.5

(100% , )

96 % OD

PVP 23.6

13.9

P4 4.9

(50% , )

96 % OD

PVP 66.8

P2 25.8

22.3

PVOH 15.3

P4 13.8

P1 11.1

(100% , )

96 % OD

PVP 49.0

19.3

P2 16.6

PVOH 13.3

P1 10.9

P4 10.4

(50% , )

96 % OD

PVP 46.6

33.0

P2 27.1

PVOH 24.0

P1 20.7

(100% , )

96 % OD

PVP 57.3

37.0

P2 26.8

P4 25.1

P1 21.9

A2

t 703C, 19%) 50.1 , ( 7:1 10 % ) 13.6 (Grace Davison, Syloje 0.08 , 0. 16 0.32 . 20 .

m <sup>2</sup> . 15g/

HP Desk Jet 970Cxi  
X-Rite 938

CIELAB  
100cfm

3 . 2 CIELAB

가 E(DE)

DE 가

(100% )

2 DE

PVOH 19.35

PVOH/ A(0.16 ) 17.73

P4 11.80

A N-(1- -2,2,6,6- - -4- )-

(100% )

2 DE

PVOH 55.59

PVOH/ B(0.32 ) 44.72

P4/ B(0.32 ) 39.27

B 2,2,6,6- - -1,4-

가 OD 가 (% OD)

(100% )

2 % OD

PVOH 22.59

PVOH/ A(0.16 ) 17.85

P4 13.55

P4/ A(0.16 ) 12.11

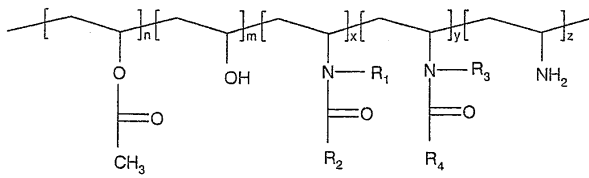
A N-(1- -2,2,6,6- - -4- )-

(57)

1.

I

I



I ,

n 0 20mole% ,

m 50 97mole% ,

x 0 20mole% ,

y 0 20mole% ,

z 0 2mole% ,

x + y 3 20mole% ,

R<sub>1</sub> R<sub>3</sub> H, 3- C<sub>1</sub>-C<sub>6</sub> 2- -3-  
C<sub>1</sub>-C<sub>6</sub> ,

R<sub>2</sub> R<sub>4</sub> H C<sub>1</sub>-C<sub>6</sub> .

2.

1 , (M<sub>w</sub>) 10,000 300,000 .

3.

1 , (M<sub>w</sub>) 30,000 130,000 n 0 5mole% ,  
m 75 90mole% , x가 0 20mole% , y가 0 20mole% , z가 0 2mole%  
% , x + y가 3 20mole% .

4.

1 , , .

5.

1 , , .

6.

5 , , , ( ) ,  
, , , / , , , ,  
, , , , (N- ) ( ) 가 , (N- ) ( ) .

7.

5 , ( ) 가 , .

8.

1 , , , .

9.

5

10.

5

11.

7

12.

7

13.

1

14.

1

15.

1

16.

15

17.

1

18.

1

19.

1

가 0mole% , n 0 , z가 0 20mole% , m 65 95mole% , x가 3 20mole% , y 2mole% , x + z가 3 20mole%

20.

1

mole% , n 0 , z가 0 5mole% , m 75 97mole% , x가 3 20mole% , y가 0 2mole% , x + z가 3 20mole% , R<sub>1</sub> R<sub>2</sub> 가 H ,

21.

1

22.

1