

(19)
(12)

(KR)
(B1)

(51) 。 Int. Cl.⁶
C08K 5/34

(45)
(11)
(24)

2004 12 04
10-0448332
2004 09 02

(21) 10-1997-0010541
(22) 1997 03 26

(65) 10-1997-0065611
(43) 1997 10 13

(30) 96/783 1996 03 26 (CH)

(73) -4057 141

(72) 658 가 4-19-1-103

1745 가 -

79589 15

1784

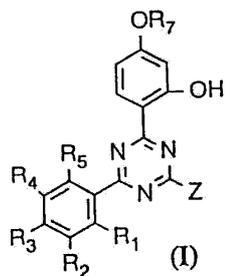
(74)

:

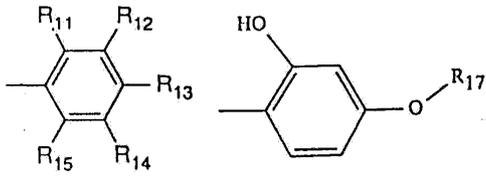
(54)

(I) 가 , /

:



, Z (II) (III) ,



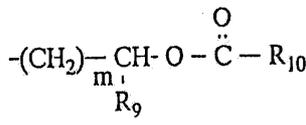
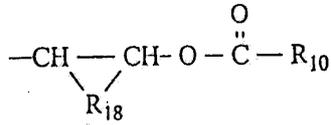
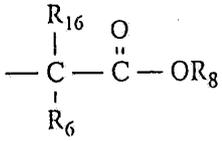
(II)

(III)

R₇ R₁₇

(IV), (V) (VI)

;



(IV)

(V)

(VI)

1

가

가

가

가

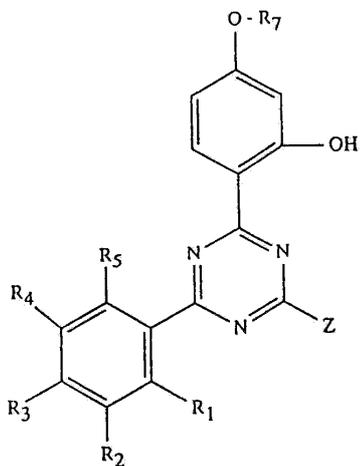
2-(2'-)-4,6- -1,3,5-

US-A-3 244

708 , US-A-3 249 608 , CH-A-484 695 , GB-A-1 321 561 US-A-4 826 978
 EP-A-434 608 , EP-A-530 135 , US-A-5 364 749 GB-A-2 273 498

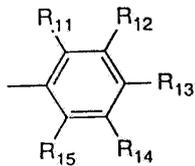
2-(2'-)-4,6- -1,3,5-

(I) A) ; B) /
 [1] :

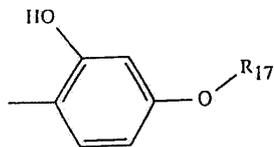


(I)

, Z (II) (III) ,



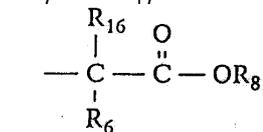
(II)



(III);

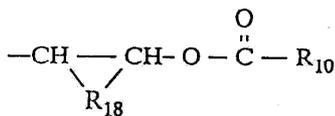
R₁, R₅, R₁₁, R₁₅ -CN ;
 R₂, R₃, R₄, R₁₂, R₁₃, R₁₄
 C₃-C₆, R₇, R₁₇

H, C₁-C₁₂, C₃-C₆, C₁-C₁₂, C₃-C₆

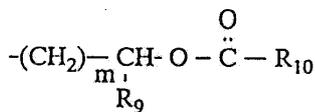


(IV)

(IV), (V) (VI)
 H, C₁-C₁₂, C₂-C₆, C₁-C₁₂,
 C₇-C₁₁, -CN ;



(V)



(VI)

m₁ 12 ;
 R₆ C₁-C₁₆, -COOR₈ ;
 R₈ H, C₁-C₁₈, C₃-C₁₈, C₅-C₁₂, C₁-C₄, C₇-C₁₄
 C₆-C₁₅, C₆-C₁₅, C₆-C₁₅, C₆-C₁₅, C₆-C₁₅, C₂-C₅₀
 C₇-C₁₁, Z (II), 가 O

R₉ C₂-C₁₄, O C₂-C₅₀ ; C₁-C₄ C
 C₁-C₄, C₅-C₁₂ C₅-C₁₂
 R₁₀ H, C₁-C₁₇, C₁-C₁₂, C₇-C₁₁, C₇-C₁₄, C₇-
 C₁₁, C₆-C₁₂, C₁-C₄, C₆-C₁₂, C₇-C₁₁,
 C₇-C₁₁, C₆-C₁₅, C₆-C₁₅, C₆-C₁₅, C₆-C₁₅
 C₆-C₁₅, C₆-C₁₅

NH ;
 R₁₆ R₆ ; R₆ R₁₆ C₄-C₁₁ ;
 R₁₈ C₃-C₁₀ (III) R₁ R₅ 가 R₃ R₁₃ R₇ R₁₇
 Z가 (VI) R₁₆

B, R₁, R₅, R₁₁ R₁₅ 가 H, C₁-C₁₂, C₃-C₆, C₁-C₁₂
 C₃-C₆, -CN ;
 R₂, R₃, R₄, R₁₂, R₁₃, R₁₄ H, C₁-C₁₂, C₂-C₆, C₁-C₁₂,
 C₃-C₆, C₇-C₁₁, -CN ;
 R₇ R₁₇ (IV), (V) (VI) ;

(3,5- - 4-) , (4- -3- -2,6-) ,
 (3,5- - 4-) , (3,5- - 4-) ,
 1.8. -2,2- (3,5- - 2-) ,
 -2-(3- 4- 5-)- , -2,2- (3,5- - 4-)
 -4-) , -[4-(1,1,3,3-)]-2,2- (3,5- - 4-)
 1.9. 1,3,5- (3,5- - 4-)-2,4,6- ,
 1,4- (3,5- - 4-)-2,3,5,6- , 2,4,6- (3,5- - 4-)
 1.10. 2,4- ()-6-(3,5- - 4-)-1,3,5-
 , 2- -4,6- (3,5- - 4-)-1,3,5- , 2- -4,6- (3,5-
 - -4-)-1,3,5- , 2,4,6- (3,5- - 4-)-1,2,3-
 , 1,3,5- (3,5- - 4-) , 1,3,5- (4- 3-
 -2,6-) , 2,4,6- (3,5- - 4-)-1,3,5- , 1,3,5-
 - (3,5- - 4-) -1,3,5- , 1,3,5- (3,5-
 -4-)
 1.11. -2,5- - 4- , -3,5- -
 -4- , -3,5- - 4- , -5-
 -4- -3- , 3,5- - 4-
 1.12. 4- , 4- , N-(3,5- -
 -4-)
 1.13. 17가 가 -(3,5- - 4-)- ,
 , n- , i- , 1,6- , 1,9- , 1,2-
 , N,N'- () , 3- , 3-
 4- -1- -2,6,7- [2.2.2]
 1.14. 17가 가 -(5- 4- -3-)- ,
 , n- , i- , 1,6- , 1,9- , 1,2-
 , N,N'- () , 3- , 3-
 , 4- -1- -2,6,7- -[2.2.2]
 1.15. 17가 가 -(3,5- 4-)- ,
 , n- , i- , 1,6- , 1,9- , 1,2-
 , N,N'- () , 3- , 3-
 , 4- -1- -2,6,7- -[2.2.2]
 1.1.6. 17가 가 3,5- - 4- , n
 - , i- , 1,6- , 1,9- , 1,2-
 N,N'- () , 3- , 3- , 4-
 -1- -2,6,7- -[2.2.2]
 1.17. -(3,5- - 4-) , N,N'- (3,5- - 4-) , N,N'-
 (3,5- - 4-) , N,N'-
 1.18. (C)
 1.19. N,N'- -p- , N,N'- -p- , N,N'-
 (1,4-)-p- , N,N'- (1- 3-)-p- , N,N'- (1-)
 -p- , N,N'- -p- , N,N'- -p- , N,N'- (2-)-p-
)-N'- -p- , N-(1,3-)-N'- -p- , N-(1-
 N,N'- -N,N'- -p- , N- -N'- -p- , 4-(p-)- ,
 - -1- , N-(4-)-1- , N- -2- , 4- , N
 - , 4-n- , 4- , 4- , 4- , 4- , p,p'
 , 4- , (4-) , 2,6- -4- , 2,4'-
 , 4,4'- , N,N,N',N'- -4,4'- , 1,2- [(2-
)] , 1,2- () , (o-) , [4-(1',3'-)] ,
 N- -1- , - / , -

-3,3- -4H-1,4- , N- , N,N,N',N'- -1,4-
(2,2,6,6- -4- (2,2,6,6- -4-
) , 2,2,6,6- -4- , 2,2,6,6- -4-

2. UV

2.1. 2-(2'-)- 2-(2'- -5'-) , 2-(3',5'- -
-2'-) , 2-(5'- -2'-) , 2-(2'- -5'-(1,1,3,3-
) , 2-(3',5'- -2'-)-5- , 2-(3'-
-2'- -5'-)-5- , 2-(3'- -5'- -2'-)
, 2-(2'- -4'-) , 2-(3',5'- -2'- -2'-) , 2-
(3',5'- -(, -)-2'-) , 2-(3'- -2'- -5'-(2-
))-5- , 2-(3'- -5'- [2-(2-)]-2'-
)-5- , 2-(3'- -2'- -5'-(2-))-5-
, 2-(3'- -2'- -5'-(2-)) , 2-(3'- -2'-
]-2'-) , 2-(3'- -2'- -5'-) , 2-(3'- -2'-
-5'-(2-)) , 2,2'- [4-(1,1,3,3-)-6-
]-2H- ; R 3'- -4'- -5'-2H- -2-

[R-CH₂CH₂-COO(CH₂)₃]₂.
2.2. 2- , 4- , 4- , 4- , 4- , 4- , 4- , 4-
, 2',4'- 2'- -4,4'-

2.3. , 4- , , 2,4- ,
3,5- -4- , 3,5- -4- , 3,5- -
-4- , 2- -4,6- -3,5- -4-

2.4. , - , - , -p- - , - , -
-p- , - -p- N-(- -)-

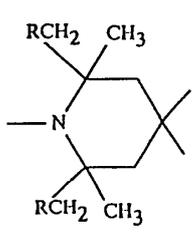
2.5. 가 (: n- , N-
)가 2,2'- - [4-(1,1,3,3-)] (1:1 1:2),
, 4- -3,5- - (:
) 가 (: 2- -4-) , 가
가 1- -4- -5-

2.6. , (2,2,6,6- -4-) , (2,2,6,6- -4-
) , (1,2,2,6,6- -4-) , (1- -2,2,6,6- -4-
) , (1,2,2,6,6- -4-) n- -3,5- -4- , 1
-(2-)-2,2,6,6- -4- , N,N'- (2,2,6,6-
-4-) -2,6- -1,3,5- , (2,2
, 6,6- -4-) (2,2,6,6- -4-)-1,2,3,4-
, 1,1'-(1,2-) (3,3,5,5-) , 4- -2,2,6,6-
, 4- -2,2,6,6- , (1,2,2,6,6-)-2-n- -2-(2-
-3,5- -) , 3-n- -7,7,9,9- -1,3,8- [4.5] -2,4-
, (1- -2,2,6,6-) , (1- -2,2,6,6-)
, N,N'- (2,2,6,6- -4-) 4- -2,6- -1,3,5-
, 2- -4,6- (4-n- -2,2,6,6-)-1,3,5- 1,2-
(3-) , 2- -4,6- -(4-n- -1,2,2,6,6-)-
1,3,5- 1,2- (3-) , 8- -3- -7,7,9,9- -
1,3,8- [4.5] -2,4- , 3- -1-(2,2,6,6- -4-) -2,5- , 3-
-1-(1,2,2,6,6- -4-) -2,5- , 4- 4- -2,2,6,6-
, N,N'- -(2,2,6,6- -4-) 4- -2,
6- -1,3,5- , 1,2- (3-) 2,4,6- -1,3,5-
, 4- -2,2,6,6- (CAS Reg.No.[136504-96-6]); N
-(2,2,6,6- -4-)-n- , N-(1,2,2,6,6- -4-)-n-
, 2- -7,7,9,9- -1- -3,8- -4- - [4,5] , 7,7,9,9- -2-
-1- -3,8- -4- [4,5] , (4-)-
(1,2,2,6,6- -4-) , N,N'- -N,N'- (2,2,6,6- -4-)-

2. , , 2 ;
3. , , 2 ;
4. () , 2 ;
5. () 2 ;
6. - 2 ;
7. 2 ;
8. 2 ;
9. () , 2 ;
10. , 2 ;
11. 가 가 ;
12. .

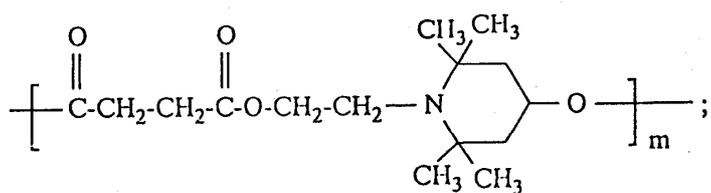
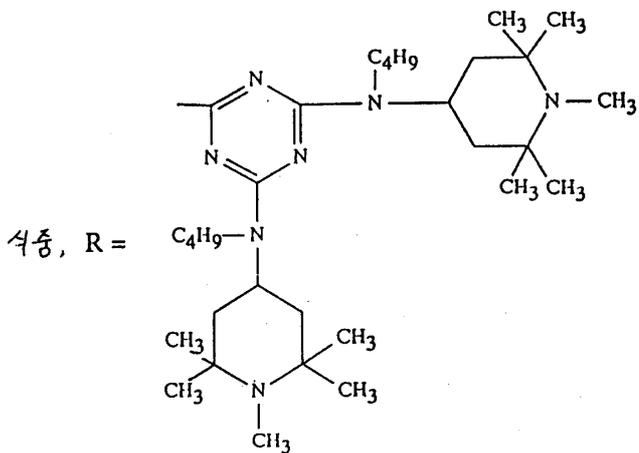
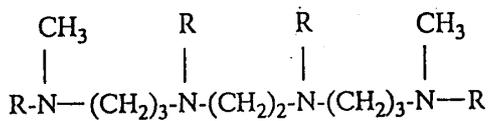
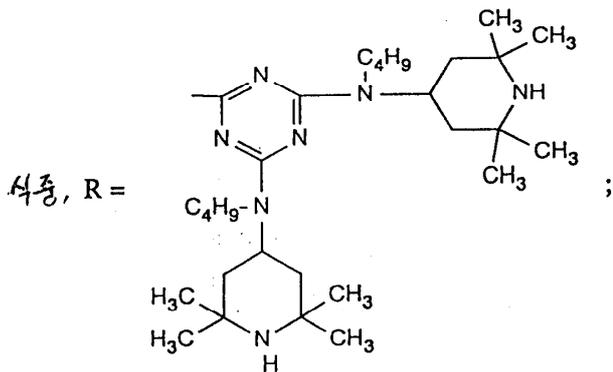
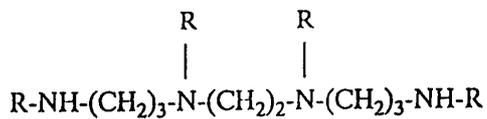
가 ()
 Ullman's Encyclopedia of Industrial Chemistry, 5th Ed, Vol. A18, pp.451-453
 C 2.1, 2.6 2.8 A B , 2-(2-)-1,3,5- / 2-
 / 2- -2H- 2- -4,6- -1,3,5- 가 가

하나 이상의 일반식



의 기를 포함하는 2,2,6,6-테트

가 :
 , R C 100 , 0.05 5 EP-A-356 677 , 3 17 , a) f)
 C EP-A
 :
 (2,2,6,6- -4-) ,
 (2,2,6,6- -4-) ,
 (1,2,2,6,6- -4-) ,
 (1,2,2,6,6- -4-) -(3,5- -4-) ,
 (1- -2,2,6,6- -4-) ,
 (2,2,6,6- -4-) 1,2,3,4- ,
 (1,2,2,6,6- -4-) 1,2,3,4- ,
 2,2,4,4- -7- -3,20- -21- [5.1.11.2] ,
 8- -3- -1,3,8- -7,7,9,9- [4.5] -2,4- , :



가
가
man's Encyclopedia of Industrial Chemistry, 5th Ed, A18, pp.451-483

Ull

2

Ullman's Encyclopedia of Industrial Chemistry, 5th Ed, Vol. A18, pp.491-500

가 50 150

(I) 가 (I)

가 (I)

가 ()

가 가

(B) 2 (I) 2

-F, -Cl, -Br -I ; -F, -Cl -Br, -Cl
) ; C₇-C₁₄ (), (), ()
) ; C₇-C₁₁ , , - , - , - , -

2,3-
n-
O 가

R₁, R₂, R₃, R₄, R₅, R₆, R₈, R₉, R₉, R₁₀, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅, R₁₆
, n-, , 1-, , 1,3-, , n-, 1-, , n-,
1,1,3,3-, , 1-, , 3-, , n-, 2-, , 1,1,3-, , 1,1,3,3-
, , , 1-, , 1,1,3,3,5,5-

R₁, R₂, R₃, R₄, R₅, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅
R₁₁, R₃, R₁₃, R₅ R₁₅
R₁, R₁₁, R₃, R₁₃, R₅, R₁₅, R₂, R₁₂, R₄ R₁₄ H, C₁-C₁₂ , C₁-C₁₂
; H, C₁-C₄ , C₁-C₄ ; H, . R₂, R₁₂, R₄ /

R₁₄ 가 (I)
C₁-C₄ , , n-, 2-, 2-
, 2-, 3-, R₁, R₁₁, R₃, R₁₃, R₅, R₁₅, R₂, R₁₂, R₄, R₁₄ R₈
, n-, -2,4-, , 3- - -2- ; R₈ 가 n- -2-
, n- -2-, , n- -2-, n- -4- . R₂, R₁₂, R₃, R₁₃, R₄ R₁₄

R₉ C₂-C₁₄ , -CH₂-O-R₁₉, C₂-C₁₄ -CH₂-O-R₁₉
; R₁₉ , C₇-C₁₁ , C₁-C₄ , C₅-C₁₂ , C₂-C₁₃
-O- C₂-C₁₃ . R₉ C₃-C₁₃ , C₄-C₁₃

R₁₀ C₁-C₁₇ ,
 R₁₈ ; , , ,

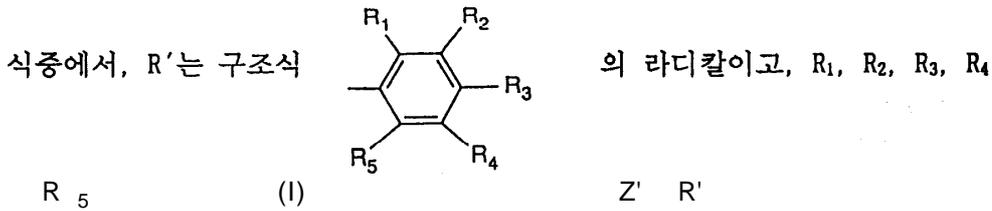
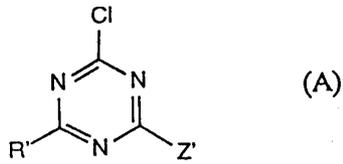
(I)
 R₁, R₅, R₁₁, R₁₅ H, C₁-C₄ , C₃ , C₁-C₄ , C₃-C₆ ,
 -F -Cl ;
 R₂, R₃, R₄, R₁₂, R₁₃, R₁₄ H, C₁-C₄ , C₃-C₆ , C₁-C₄ , C₃-C₆ ,
 -CN ;
 R₆ C₁-C₁₆ ;
 R₈ H, C₁-C₁₈ , C₃-C₈ , C₁-C₄ , -2- ,
 -5- -2- , -2- , -5- -2- C₇-C₁₁ , Z가 (II)
 , O C₂-C₁₈ 가 ;
 R₉ C₂-C₁₄ O C₃-C₁₄ ;
 R₁₀ H, C₁-C₁₇ , C₁-C₁₂ , C₇-C₁₁ , C₇-C₁₁
 , 1- -NH- ;
 R₁₆ R₆ ;
 R₁₈ C₃-C₁₀ .

(I)
 R₆ C₁-C₁₆ ;
 R₉ C₁-C₁₈ , C₃ , Z가 (II)
 , O C₃-C₁₃ 가 ;
 R₉ C₂-C₁₄ O C₃-C₁₄ ;
 R₁₀ C₁-C₁₇ , C₁-C₁₂ , C₇-C₁₁ , -NH- ;
 R₁₆ R₆ ;
 R₁₈ C₃-C₁₀ .

(I)
 R₁, R₅, R₁₁, R₁₅ H C₁-C₄ ;
 R₂, R₃, R₄, R₁₂, R₁₃, R₁₄ H, C₁-C₄ , , -F, -Cl, -CN
 ;
 m₁ 8 ;
 R₆ C₁-C₁₆ ;
 R₈ C₁-C₁₅ , C₃ , Z가 (II) , O C
 -C₁₃ 가 ;
 R₉ C₂-C₈ O C₃-C₁₂ ;
 R₁₀ C₁-C₁₇ , C₁-C₁₂ ;
 R₁₆ R₆ ;
 R₁₈ C₃-C₆ .

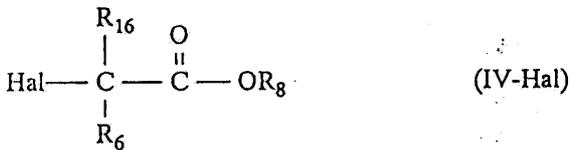
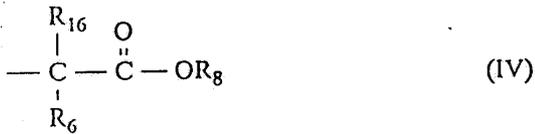
(I)
 R₁, R₂, R₃, R₄, R₅, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅ H ; R₇, R₁₇
 (IV), (V) (VI) , m₁ ; R₆ C₁-C₈ 가 ;
 R₉ C₁-C₁₀ Z가 (II) , O C₃-C₈ ;
 R₉ -CH₂-O-R₁₉ - ;
 R₁₀ C₁-C₁₇ C₂-C₈ ;
 R₁₆ C₁-C₈ ;
 R₁₈ C₃-C₆ ;
 R₁₉ C₂-C₁₃ .

(I) EP-A-434 608 . . . Helv. Chim. Acta 55,
 1566 (1972)
 R₇가 (I)
 EP-A-434 608 , 15 , 11 , 17 , 1
 (I) 1 (A) 1 (Z'가 R')
 2 (Z'가 Cl) :



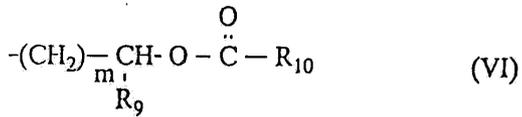
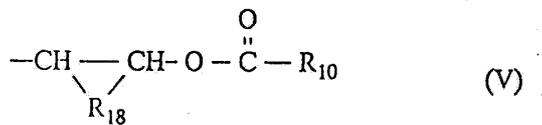
R₅ (I) Z' R' ; 5 15%
 AICI₃ ;
 1 30%, 5 20% ;
 SO SO₂ ;
 20 ; 50 150 가
 ; 가
 p- 가

R₇ R₁₇ (IV) (I) (

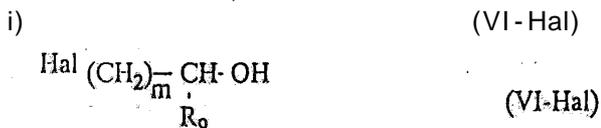


, Hal, Cl, Br, Br ;

R₇ R₁₇ (V) (VI) K₂CO₃ (I) 가



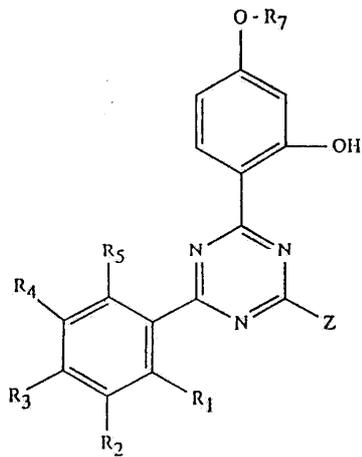
가 :



(VI-Hal) m 1 12, Hal, Cl, Br, Br

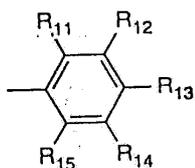
KOH K₂CO₃

ii) (V-Ep) (VI-Ep)

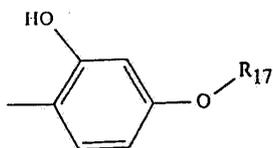


(I')

, Z (II') (III') :



(II')

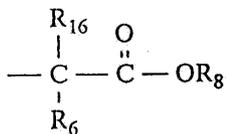


(III');

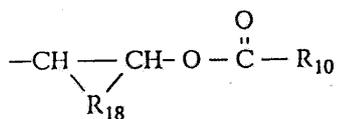
R₁, R₅, R₁₁, R₁₅ ;
 R₂, R₃, R₄, R₁₂, R₁₃, R₁₄ ;
 C₃-C₆ ;
 R₇, R₁₇

H, C₁-C₁₂, C₃-C₆, C₁-C₁₂, C₃-C₆

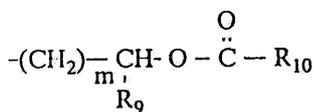
(IV'), (V') (VI') ;
 H, C₁-C₁₂, C₂-C₆, C₁-C₁₂,
 C₇-C₁₁, -CN ;



(IV')



(V')



(VI')

m 1 12 ;
 R₆ C₁-C₁₆, -COOR₈ ;
 R₈ H, C₁-C₁₈, C₃-C₁₈, C₅-C₁₂, C₁-C₄, C₇-C₁₄ ;
 C₆-C₁₅, C₆-C₁₅, C₆-C₁₅, C₆-C₁₅, C₂-C₁₈ ;
 C₇-C₁₁, Z (II) ;
 R₉ C₂-C₁₄, C₁-C₄, C₁-C₄ ;
 C₅-C₁₂, C₅-C₁₂, C₁-C₁₄ ;
 R₁₀ H, C₁-C₁₇, C₁-C₁₂, C₇-C₁₁, C₇-C₁₄, C₇- ;
 C₁₁, C₆-C₁₂, C₁-C₄, C₆-C₁₂, C₇-C₁₁ ;
 C₇-C₁₁, C₆-C₁₅, C₆-C₁₅, C₆-C₁₅

NH ; , C₆-C₁₅ , C₆-C₁₅ , C₆-C₁₅ -

R₁₆ R₆ ; Z가 (II) 가 ;

R₁₈ C₃-C₁₀ (III) , R₁ R₅ 가 R₃ R₁₃ R₇ R₁₇

Z가 (VI') R₁₆ (I) ; R₁, R₅, R₁₁, R₁₅

H, C₁-C₄ , C₃ , C₁-C₄ , C₃-C₆ , -F -Cl ;

R₂, R₃, R₄, R₁₂, R₁₃ R₁₄ H, C₁-C₄ , C₃-C₆ , C₁-C₄ , C

₃-C₆ , -F, -Cl -CN ;

R₆ C₁-C₁₆ ;

R₈ H, C₁-C₁₈ (II) , C₃-C₈ , C₁-C₄ , C₇-C₁₁

Z가 (II) , O C₂-C₁₈ 가 ;

R₉ C₂-C₁₄ ;

R₁₀ H, C₁-C₁₇ , C₁-C₁₂ , C₇-C₁₁ , C₇-C₁₁

-NH- ;

R₁₆ R₆ ; Z가 (II) 가 ;

R₁₈ C₃-C₁₀ (I') .

R₆ C₁-C₁₆ ;

R₉ C₁-C₁₈ , C₃ , Z가 (II) , 가

O C₃-C₁₃ ;

R₁₀ C₁-C₁₇ , C₁-C₁₂ , C₇-C₁₁ , -NH- ;

R₁₈ C₃-C₆ (I') H C₁-C₄ ;

R₁, R₅, R₁₁, R₁₅ H C₁-C₄ ;

R₂, R₃, R₄, R₁₂, R₁₃ R₁₄ H, C₁-C₄ , -F, -Cl, -CN

;

m₁ 8 ;

R₆ C₁-C₁₆ ;

R₈ C₁-C₁₅ , C₃ , Z가 (II) , O C

₃-C₁₃ 가 ;

R₉ C₂-C₈ ;

R₁₀ C₁-C₁₇ , C₁-C₁₂ ;

R₁₈ C₃-C₆ (I') , H ;

R₁, R₃, R₁₁, R₁₃ H ;

R₂, R₄, R₅, R₁₂, R₁₄ R₁₅ H ;

R₇ R₁₇ (IV), (V) (VI) ,

m₁ ;

R₆ C₁-C₆ ;

R₈ C₁-C₁₀ Z가 (II) O C₃-C₈ 가 ;

R₉ C₂-C₈ ;

R₁₀ C₁-C₁₇ C₂-C₈ ;

R₁₈ C₃-C₆ (I') .

A) , / , B) (I') /

(I') , / (I') /

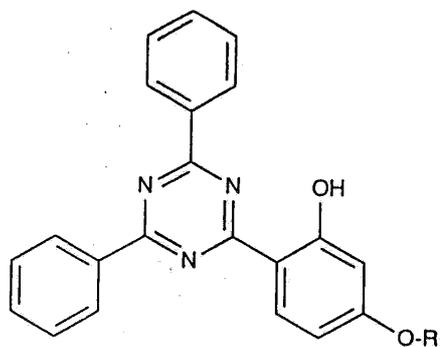
(I') 가 가 , , ,

US-5 538 840 , 25, 60 106, 3

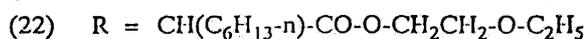
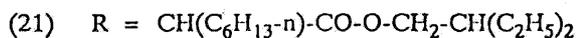
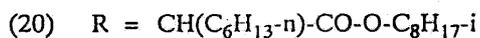
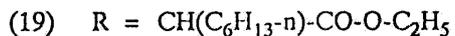
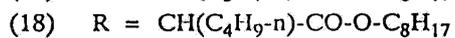
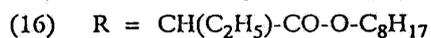
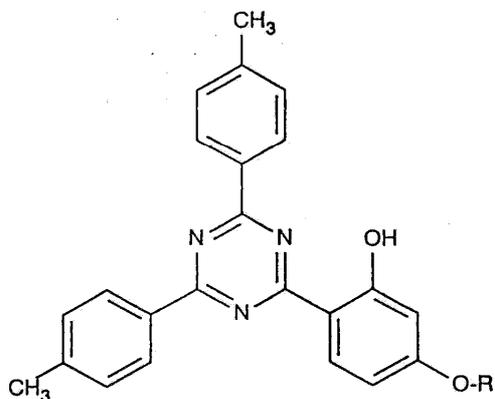
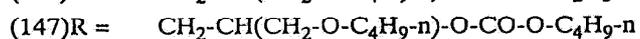
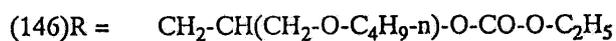
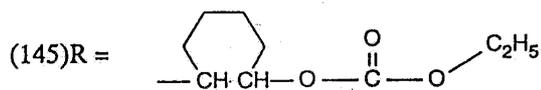
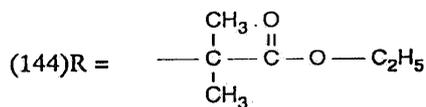
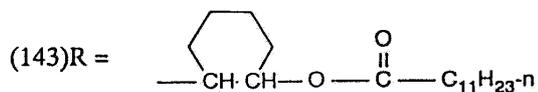
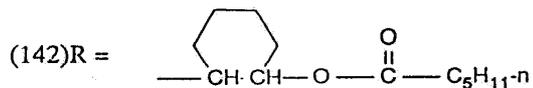
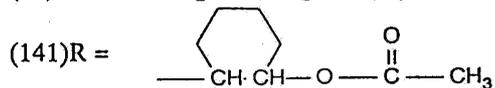
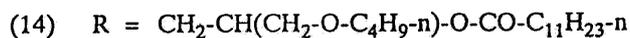
(I) US-5 538 840 (I) /

US-5 538 840

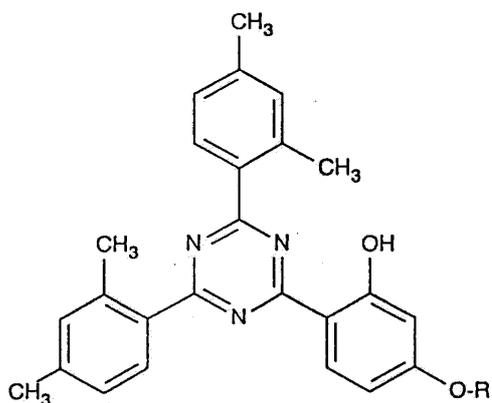
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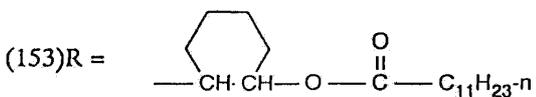
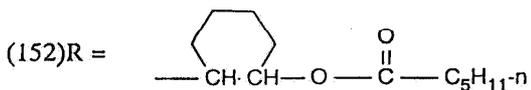
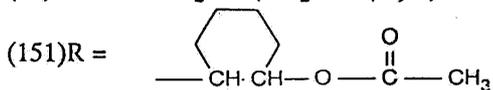
- (1) R = CH(CH₃)-CO-O-CH₃
- (2) R = CH(CH₃)-CO-O-C₂H₅
- (3) R = CH(C₂H₅)-CO-O-C₈H₁₇
- (4) R = CH(C₂H₅)-CO-O-CH₂CH₂-O-C₂H₅
- (5) R = CH(C₃H_{7-n})-CO-O-C₈H₁₇
- (6) R = CH(C₄H_{9-n})-CO-O-C₈H₁₇
- (7) R = CH(C₆H_{13-n})-CO-O-C₂H₅
- (8) R = CH(C₆H_{13-n})-CO-O-CH₂-CH(CH₃)₂
- (9) R = CH(C₆H_{13-n})-CO-O-C₈H_{17-i}
- (10) R = CH(C₆H_{13-n})-CO-O-CH₂-CH(C₂H₅)₂
- (11) R = CH(C₆H_{13-n})-CO-O-CH₂CH₂-O-C₂H₅
- (12) R = CH₂-CH(CH₂-O-C₄H_{9-n})-O-CO-CH₃
- (13) R = CH₂-CH(CH₂-O-C₄H_{9-n})-O-CO-C(CH₃)₃

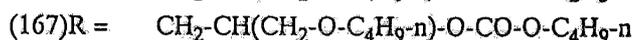
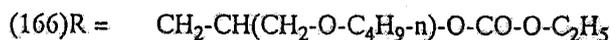
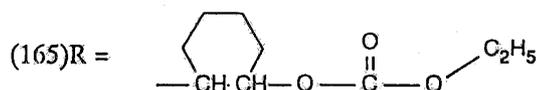
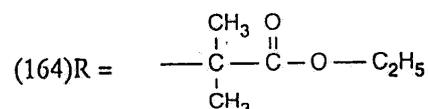
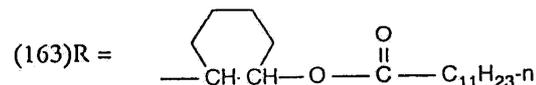
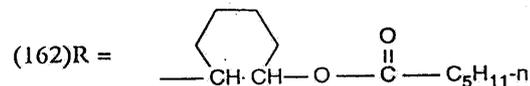
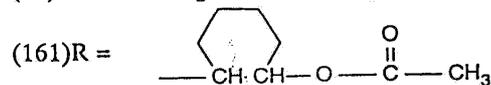
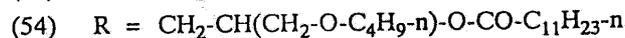
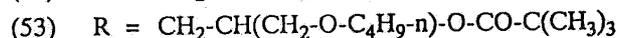
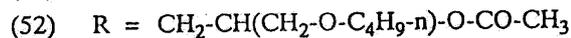
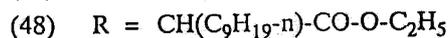
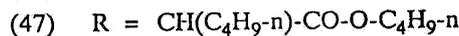
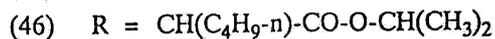
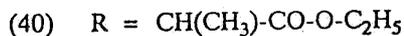
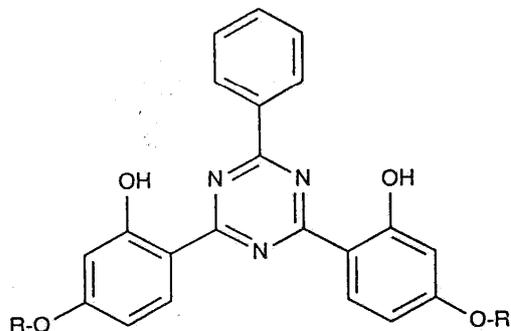
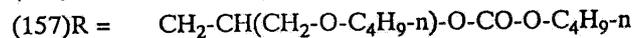
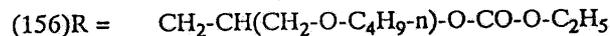
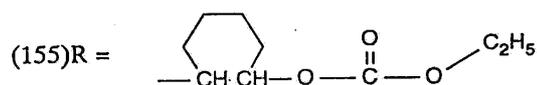
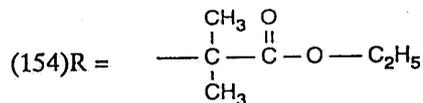


- (23) R = CH₂-CH(CH₂-O-C₄H_{9-n})-O-CO-CH₃
 (24) R = CH₂-CH(CH₂-O-C₄H_{9-n})-O-CO-C(CH₃)₃
 (25) R = CH₂-CH(CH₂-O-C₄H_{9-n})-O-CO-C₁₁H_{23-n}



- (26) R = CH(CH₃)-CO-O-C₂H₅
 (27) R = CH(C₂H₅)-CO-O-C₈H₁₇
 (28) R = CH(C₃H_{7-n})-CO-O-C₈H₁₇
 (29) R = CH(C₄H_{9-n})-CO-O-C₈H₁₇
 (30) R = CH(C₆H_{13-n})-CO-O-C₂H₅
 (31) R = CH(C₆H_{13-n})-CO-O-CH₂-CH(CH₃)₂
 (32) R = CH(C₆H_{13-n})-CO-O-C₈H_{17-i}
 (33) R = CH(C₆H_{13-n})-CO-O-CH₂-CH(C₂H₅)₂
 (34) R = CH(C₆H_{13-n})-CO-O-CH₂CH₂-O-C₂H₅
 (36) R = CH(C₉H_{19-n})-CO-O-C₂H₅
 (37) R = CH₂-CH(CH₂-O-C₄H_{9-n})-O-CO-CH₃
 (38) R = CH₂-CH(CH₂-O-C₄H_{9-n})-O-CO-C(CH₃)₃
 (39) R = CH₂-CH(CH₂-O-C₄H_{9-n})-O-CO-C₁₁H_{23-n}





%

20 25

가

가

THF

abs.

m.p.

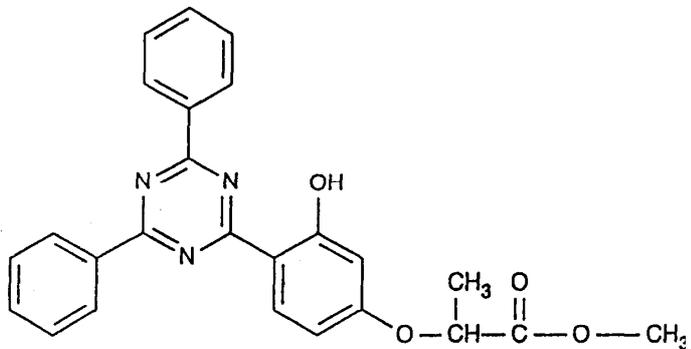
NMR

torr mmHg (1 torr 133 Pa)

Tg

A)

A1: 2,4-6-(2-4-[(1-3,5-20.0 g(0.0596), K₂CO₃ (, 99%) 8.1 g(0.0586)) , 99.5%) 0.3 g(1.8) 100ml , 99%) 10.3 g(61.9) 가 60 가 110 2-16 가 (2-1) 18.5 g 100 /60 14 27.3 g

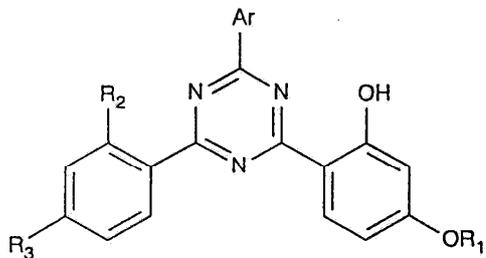


140-142°C.

A1 2-11, 15-22, 26-36 40-48 , 40-51 , (R) (C) % 2 60, 230-400 , 9:1 / ;

[1] 2-11, 15-22, 26-36 40-51

번호	추분 물질	정제	융점 판 특징화	분석 (실측치)			
				% C	% H	% N	
(2)	BrCH(CH ₃)COOC ₂ H ₅		137-140°C	70.55	5.29	9.58	
(3)	BrCH(C ₂ H ₅)COOC ₈ H ₁₇			73.76	7.10	7.19	
(4)	BrCH(C ₂ H ₅)COOCH ₂ CH ₂ OC ₂ H ₅		98-104°C	69.99	5.99	8.43	
(5)	BrCH(C ₃ H _{7-n})-CO-O-C ₈ H ₁₇			74.02	6.91	7.38	
(6)	BrCH(C ₄ H _{9-n})-CO-O-C ₈ H ₁₇			74.24	7.36	6.97	
(7)	BrCH(C ₆ H _{13-n})-CO-O-C ₂ H ₅		120-122°C	72.99	6.37	7.87	
(8)	BrCH(C ₆ H _{13-n})COOCH ₂ CH(CH ₃) ₂		87-93°C	73.64	7.09	7.87	
(9)	BrCH(C ₆ H _{13-n})-CO-O-C ₈ H _{17-i}			74.75	7.71	6.91	
(10)	BrCH(C ₆ H _{13-n})COOCH ₂ CH(C ₂ H ₅) ₂		79-82°C	74.19	7.25	7.41	
(11)	BrCH(C ₆ H _{13-n})COOCH ₂ CH ₂ OC ₂ H ₅		104-109°C	71.6	6.82	7.41	
(15)	BrCH(CH ₃)-CO-O-C ₂ H ₅						
(16)	BrCH(C ₂ H ₅)-CO-O-C ₈ H ₁₇			74.24	7.47	6.88	
(17)	BrCH(C ₃ H _{7-n})-CO-O-C ₈ H ₁₇			74.36	7.43	7.09	
(18)	BrCH(C ₄ H _{9-n})-CO-O-C ₈ H ₁₇			74.60	7.72	6.53	
(19)	BrCH(C ₆ H _{13-n})-CO-O-C ₂ H ₅		138-140°C	73.30	7.00	7.72	
(20)	BrCH(C ₆ H _{13-n})-CO-O-C ₈ H _{17-i}			75.27	8.15	6.28	
(21)	BrCH(C ₆ H _{13-n})COOCH ₂ CH(C ₂ H ₅) ₂		92-94°C	74.37	7.66	6.79	
(22)	BrCH(C ₆ H _{13-n})COOCH ₂ CH ₂ OC ₂ H ₅		118-121°C	71.78	7.30	7.06	
(26)	BrCH(CH ₃)-CO-O-C ₂ H ₅		120-122°C	72.43	6.54	8.38	
(27)	BrCH(C ₂ H ₅)-CO-O-C ₈ H ₁₇			74.99	7.78	6.74	
(28)	BrCH(C ₃ H _{7-n})-CO-O-C ₈ H ₁₇			75.25	7.83	6.42	
(29)	BrCH(C ₄ H _{9-n})-CO-O-C ₈ H ₁₇			75.11	7.96	6.39	
(30)	BrCH(C ₆ H _{13-n})-CO-O-C ₂ H ₅		94-95°C	74.32	7.50	7.51	
(31)	BrCH(C ₆ H _{13-n})COOCH ₂ CH(CH ₃) ₂			74.60	7.82	6.77	
(32)	BrCH(C ₆ H _{13-n})-CO-O-C ₈ H _{17-i}			75.28	8.25	6.20	
(33)	BrCH(C ₆ H _{13-n})COOCH ₂ CH(C ₂ H ₅) ₂			75.15	7.95	6.76	
(34)	BrCH(C ₆ H _{13-n})COOCH ₂ CH ₂ OC ₂ H ₅		87-90°C	72.58	7.48	6.66	
(36)	BrCH(C ₉ H _{19-n})-CO-O-C ₂ H ₅			74.18	7.76	6.78	
(40)	BrCH(CH ₃)-CO-O-C ₂ H ₅		131-145°C	64.63	5.47	7.07	
(45)	BrCH(C ₄ H _{9-n})-CO-O-C ₂ H ₅			67.03	6.83	6.05	
(46)	BrCH(C ₄ H _{9-n})-CO-O-CH(CH ₃) ₂			68.55	6.97	6.04	
(47)	BrCH(C ₄ H _{9-n})-CO-O-C ₄ H _{9-n}			69.03	7.16	5.60	
(48)	BrCH(C ₉ H _{19-n})-CO-O-C ₂ H ₅			70.55	8.29	4.90	
37-39 (EP-A-434 608 , 1)							
2-(2,4-)-4,6-	(2,4-)-1,3,5-	(US-A-3 244 708 ,	16		
) 23.8 g(0.06))	300ml	. 97%	12.1 g(0.09)		0.	
75 g(0.006)	가		. 5	100g			
			/			80	
83 2-[2-	-4-(3-	-2-)]4,6-	(2,4-)-1,3,5-	27.
3 g(= 86%)							
	12-14, 23-25	52-54				:	



출발
화합물.
번호.

Ar R2 R3 R1

12-14	페닐	H	H	-CH ₂ -CH(OH)-CH ₂ -O-C ₄ H _{9-n}
23-25	p-톨릴	H	CH ₃	-CH ₂ -CH(OH)-CH ₂ -O-C ₄ H _{9-n}
37-39	m-크실릴	CH ₃	CH ₃	-CH ₂ -CH(OH)-CH ₂ -O-C ₄ H _{9-n}
52-54	페닐	OH	= OR ₁	-CH ₂ -CH(OH)-CH ₂ -O-C ₄ H _{9-n}

A2: 12, 23, 37 52
 (, 99.5%) 250 ml (2- -4,6- [2- -4-(3- -2-))
]-1,3,5- 20.0 g(31.6), (, 99%) 7.4 g(94.8) 0.8 g(10
) 60 14
 (60, 23-400 ; / [2:1])
 2- -4,6- [2- -4-(3-n- -2-)]-1,3,5-
 (52) 80 /0.01 torr 2
 2 12, 13 37
 70
 1/2 ;
 %

[2]

12, 23, 37 52

번호	용점 또는 특징화	분석(실측치)		
		% C	%H	%N
(12)	108-110℃	70.09	6.21	8.12
(23)	104-108℃	70.70	6.57	7.72
(37)		71.55	7.15	6.99
(52)		65.13	6.65	5.71

A3: 13, 24, 38 53
 2- -4,6- [2- -4-(3- -2-)]-1,3,55- 20.0g (31.6) ,
 , 99.5%) (, 98%) 16.3 g(135.3) 0.8 g(10) 250ml ()
 ; h= 4cm, d= 6cm;) 2- -4,6- [2- -4
 -(3-n- -2-)]-1,3,5- (53) 100
 /0.01 torr 3
 3 13, 24 38
 ;
 %

[3]

13, 24, 38 53

번호	용점 또는 특징화	분석(실측치)		
		% C	%H	%N
(13)		70.89	6.84	7.13
(24)	104-107℃	72.12	7.10	7.23
(38)		72.68	7.52	6.46
(53)		67.36	7.65	5.15

A4: 14, 25, 39, 166, 167 54 162, 163 165
 2- -4,6- [2- -4-(3- -2-)]-1,3,55- 14.0g (22.0),
 (, 99.5%) (, 98%) 10.6g (48.5) 0.8 g(10) 150ml
 90-100 5
 h= 4cm, d= 6cm;) 2- -4,6- [2- -4-(3-n
 - -2-)]-1,3,5- (54) 100 /0.0
 1 torr 3
 4 14, 25, 39, 54, 166 167
 162, 163 165 A5c
 1/2 ;
 %

[4]

14, 25, 39, 162, 163, 165, 166, 167 54

번호	용점 또는 특징화	분석(실측치)		
		% C	%H	%N
(14)		74.17	8.42	5.52
(25)		73.97	8.11	6.01
(39)		74.45	8.40	5.50
(54)		71.28	8.76	4.00
(162)	Tg=10.7℃	70.67	7.38	5.18
(163)	Tg=-8.5℃	73.33	8.69	4.22
(165)	m. p. 57.1℃(DSC)	66.67	6.37	6.00
(166)	Tg=0.6℃	63.37	6.64	5.22
(167)	Tg=-7.8℃	65.28	7.10	5.02

A5:

a) 141, 142, 143, 145 :
 2,4- -6-(2'- -4'-(2'-))-1,3,5-
 , 2,4- -6-(2',4'-)-1,3,5- 13.0 g(29.6),
 , 99%) 7.50 g(76.4) (, 97%) 2.2 g(5.9)가
 (, 99.5%) 65 ml 100 42
 80 . 2 0 80 /50 torr 14
 169 171 10.1 g(77.8 %)

b) 151, 152, 153, 155 :
 2,4- (2',4'-)-6-(2'- -4'-(2'-))-1,3,5-
 2,4- -6-(2',4'-)-1,3,5- 2,4- (2',4'-)-6-(2',4'-
)-1,3,5- a)

c) 160 161 :
 2- -4,6- (2'- -4'-(2'-))-1,3,5-
 1 2- -4,6- (2',4'-)-1,3,5- 0.1
 3 a) 137 143

A6: 2,4- -6-(2'- -4'-(2'-))-1,3,5- (141)
 140ml (, 99.5%) 2,4- -6-(2'- -4'-(2'-))-1,3,5-
 - 13.0 g(29.6), (, 99%) 7.0 g(89.2) 0.6 g(7.6)
 , 50 6 , (Tonsil AC[®]) 5.0g 가
 15 ,
 130 /0.1 torr 8 13.3 g(93.6%) . Tg= 60.4 (DSC).

(A5, b c) 6 151 161 %

[6] 151 161

번호	용점 또는 특징화	분석(실측치)		
		% C	%H	%N
(151)	Tg=38.9℃(DSC)	73.89	6.55	7.74
(161)	Tg=58.1℃	68.08	6.28	6.25

A7:
 2,4- 60ml 3), 50 20 3
 -6-(2'- 2,4- (, 98%)
 -4'-(2'- -4'-(2'-))-1,3,5-))-1,3,5- (143) 5.0 g(11.
 0.1 g(1.3)
 (Prolith **Rapid**[®]) 5.0g 가 , 100ml
 10.6g . 60 /50 torr 14
 5.6 g 82-95 . 7 142, 145, 146 147 A5b
 152, 153, 155, 156 157

[7] 142, 145, 146, 147, 152, 153, 155, 156 157

번호	용점 또는 특징화	분석(실측치)		
		% C	%H	%N
(142)	Tg= 38.9℃(DSC)	73.64	6.46	7.77
(145)	m. p. 140-142℃(DSC)	70.59	5.80	8.41
(146)	Tg= 56.0℃(DSC)	68.54	6.25	7.61
(147)	Tg = 55.3℃(DSC)	69.52	6.57	7.27
(152)	UV(CHCl ₃): ε(339nm)=24 330	74.73	7.54	7.10
(153)	Tg= -2.8℃	76.21	8.29	6.36
(155)	Tg= 52℃	72.10	6.75	7.35
(156)	Tg = 5.5℃(DSC)	70.12	6.81	7.02
(157)	Tg = 42.2℃	70.90	7.04	6.68

A8:
 2,4- 60ml 1.5) 100 110 14.0g A5
 -6-(2'- 80ml)-1,3,5- 12.7 g(37.2) , 2,4- -6-(2',4'- (144) 5.0 g(11.
 -4'-(2'-))-1,3,5-))-1,3,5- (, 97%) 12.0 g(6
 10.3 g(74.5) 0.3 g(2)
 . 80 (250 g 60/230-400 ; / 1:1)
 50 /50 torr 24 9.8g . 131-132 .
 8 154 164 %

[8] 154 164

번호	용점 또는 특징화	분석(실측치)		
		% C	%H	%N
(154)	Tg= 22.3℃	72.56	6.51	8.13
(164)	Tg= 28.1℃	65.95	6.67	7.05

B)
 B1: 2- 5 10g (%)

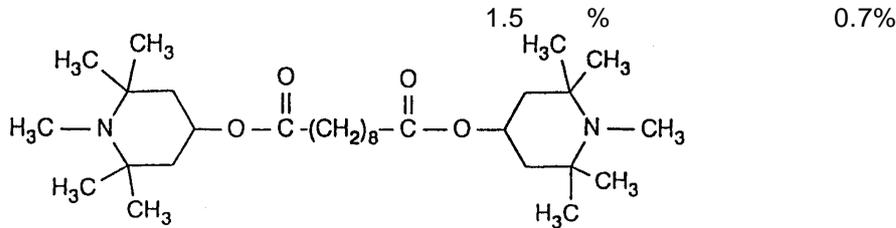
Uracron® 2263B ¹⁾	59.2
Cymel® 327 ²⁾	11.6
크실렌	19.4
부틸글리콜 아세테이트	5.5
부탄올	3.3
균염보조제 Baysilon® A ⁶⁾	1.0
알루미늄 트리스아세틸아세토네이트 (경화 촉매)	1.6

101.6

1) , DSM NV

2)

3) : : 1%



(A) 가 Solvesso® 100

) 130 30 가 .40 50µm

UVCON®

(UVB-313)

(, , 70 8 UV

50 4

(20° , DIN 67530)

9

[9]

UVCON

20°

안정화제	균열이 나타나는 시간	하기 시간후의 20° 광택				
		0h	1200h	7200h	8400h	10 000h
없음	2000h	87	48			
화합물번호 5	10000h	87	85	68	70	67
화합물번호 28	10000h	87	85	67	62	53
화합물번호 3	10000h	87	83	73	69	68
화합물번호 16	10000h	87	84	71	69	67
화합물번호 27	10000h	87	84	67	61	53
화합물번호 7	10000h	87	81	72	72	70
화합물번호 19	10000h	87	79	74	72	71
화합물번호 30	10000h	87	76	68	62	56

(,)

B2:

Buss PLK46L

40 80 1 2 125

Synthacryl® VSC 1436 ¹⁾	756g
Additol® VXL 1381 ¹⁾	236g
벤조인	3g
Additol® XL 490 ²⁾	5g
안정화제 B ³⁾	10g

1010g

1) ;
 2) ;
 3) (1,2,2,6,6- -4-) (3,5- -4-) -n-
 10 20g
 Retsch ZM-1 1 1.0 mm 90
 μm 31μm
 (35-40μm) 130 30
 145 30
 ESB-바그너®
 60μm
 UVCON® (UVB-313) 70 8 UV
 50 4
 TNO 353 가
 10
 [10]
 TNO 가

안정화제	지속시간	TNO 평가
없음	2800 h	E4b
화합물(21)	>10 000 h	균열없음

B3: 2- 5 10g ()

Synthacryl® SC 303 ¹⁾	31.84
Synthacryl® SC 370 ²⁾	23.34
Maprenal® MF 650 ³⁾	27.29
이소부탄올	4.87
Solvesso® 150 ⁴⁾	2.72
Kristallöl K-30 ⁵⁾	8.74
균염보조제 Baysilon® MA ⁶⁾	1.20

100.00

1) ; / 26.9 65%
 2) ; Solvesso® 100 4) 75%

- 3) ; 55%
- 4) 182-203 (Solvesso[®] 150) 161-178 (Solvesso[®] 100);
: ESSO
- 5) 145-200 ; :
- 6) Solvesso[®] 150 4) 1%; ; 1.5% A(B1) 0.7% 가

Solvesso[®] 100

) 130 30 40 50µm (, , -
B1 가 11

[11]

UVCON 20 °

안정화제	균열이 나타나는 시간	하기 시간후의 20° 광택				
		0h	1200h	2000h	2400h	2800h
없음	1200 h	90	5			
화합물번호 29	2800 h	90	88	89	73	47
화합물번호 11	2800 h	90	86	85	68	30
화합물번호 34	2800 h	90	80			
화합물번호 33	2800 h	90				

B4: B3

12

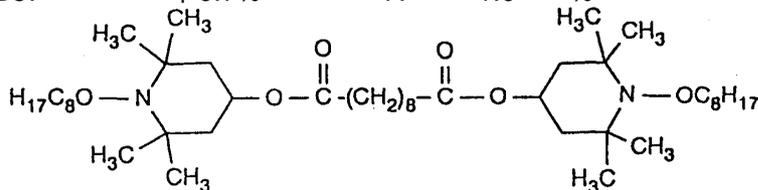
[12]

UVCON 20 °

안정화제	균열이 나타나는 시간	하기 시간후의 20° 광택			
		0h	1200h	2400h	2800h
없음	1200 h	89	11		
화합물번호 53	3200 h	89	89	88	82
화합물번호 54	3200 h	89	89	88	68
화합물번호 23	3200 h	89	91	90	77
화합물번호 37	3200 h	89	91	87	69
화합물번호 38	3200 h	89	88	89	60
화합물번호 24	3200 h	90	91	89	
화합물번호 25	3200 h	90	91	89	
화합물번호 12	3200 h	90	91	88	
화합물번호 13	3200 h	89	91	90	
화합물번호 14	3200 h	90	90	87	
화합물번호 39	3200 h	90	91		

B5: 가 0.7%

A 1.0 %



(B)

B3

13

[13]

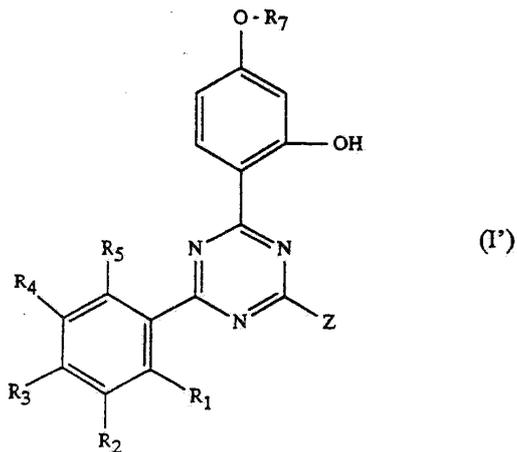
UVCON 20 °

안정화제	균열이 나타나는 시간	하기 시간후의 20° 광택			
		0h	0800h	4800h	5600h
없음	1200 h	83	27		
화합물번호 9	5200 h	82	84	74	
화합물번호 20	6000 h	79	87	74	56
화합물번호 32	5200 h	82	85	74	

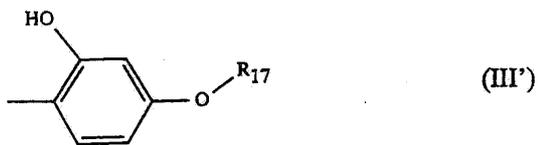
(57)

1.

(I') :



Z (II') (III') ;



R₁, R₅, R₁₁, R₁₅ ;
 R₂, R₃, R₄, R₁₂, R₁₃, R₁₄ ;
 C₃-C₆ ;
 R₇, R₁₇

H, C₁-C₁₂, C₃-C₆, C₁-C₁₂, C₃-C₆

(IV'), (V') (VI') ;
 H, C₁-C₁₂, C₂-C₆, C₁-C₁₂,
 C₇-C₁₁, -CN ;

