



(a) - (1,6) / - (1,3) , (b) ( )

- (1,6) , - (1,3) , ( ) , ,

(glucan)

V - B

UV - A

가

U

( ) ,

( )

(blister)가

(milky emulsion)

(UV light protection filter)

가

가

( )

(skin compatibility)

가

가

(skin care)

(sun protection agent)

EP - B1 0500718 ; US 4,891,220 ; US 5,223,491 ; US 5,397,773 , US 5,519,009 , US 5,576, 015 , US 5,702,719 5,705,184 (Donzis)

(1,6)

EP - A1 0681830 (Unilever) , /

10 %

가 , US 5,158,772 (Davis)

(Cellulomonas flavigena)

1,3-

FR - A1 2511253 , DNA

가

JP - A2 62/096404 (Kanebo)

가

FR - B1 2620024 (Soc. d'Etudes Dermatologiques)

(radical capturer)

WO 95/01773 (Boston University)

DNA

DE - A1 4323615

(fragment)

(vitalisation)

(a) - (1,6)

- (1,3)

(b) ( )

/

- (1,6)

- (1,3)

(

)

(1,6)

가

- (1,3)

(glucan)

(1,3),

- (1,4)

- (1,6)

가

- (1,3)

, (1,4)

가

- (1,3)

가

(1,3)

(1,6)

(1,3)

(Saccharomyces),

(Saccharomyces cerevisiae)

WO 95/30022 (B

iotec - Mackzymal)

- (1,3)

- (1,

6) 가

- (1,6)

- (1,6)

(Trichoderma harzianum)

( )

( )

(DNA RNA)

(nucleobase)

2 -

- D -

D -

2' -

- D -

D -

DNA's

RNA's

1

N -

(single string)

DNA

RNA

5' -

3' - OH

(string break)

DNA

RNA

가

$10^3$

$10^9$

DNA

RNA

40,000

1,000,000

. 50,00

0 100,000



- (1) 8 22 , 12 22 가 8 15  
2 30 / 0 5 가 ;
- (2) 1 30 가 C<sub>12/18</sub> ;
- (3) 6 22 가 ; - -
- (4) 가 8 22 - ;
- (5) 15 60 가 ;
- (6) , - 12 - ;
- (7) / 2 15 가 ;
- (8) C<sub>6/22</sub> , 12 - , ( , ) ,  
( , , ) ( , );
- (9) - , - , - , - / PEG ;
- (10) ;
- (11) / / ;
- (12) DE 1165574 PS , / 6  
22 ( ) ;
- (13) ;
- (14) .  
 , , , 가 - , - 가  
 / 가 / 가  
가 가 / 가  
C<sub>12/18</sub> - (revertive fatting agent)  
DE 2024051 PS .  
C<sub>8/18</sub> - , ,  
8 18 , 1 . , ,  
가 가 8 가

(Zwitterionic surfactant)

가 8 18 가 8 18 N- -N,N- 가 8 18 2- -3 가 CTFA (ampholytic surfactant) -COOH - SO<sub>3</sub>H C<sub>8/18</sub> N- , N- , N- , N- , 2- , N- -N- , N- C<sub>12/18</sub> 4 (quaternary emulsifer)가 (methylquaternised)

(hyperfatting agent)

(pearl gloss wax) ; 6 ; 22 ; 12 ; 12 22 24 (lauron) / 2 15 ; 2 10

(consistency giver)

, 12 22 , 16 18 / -N- / - 12 -

(thickening agent)

가- 가, (tylose), ( , Goodrich 가 Carbopol™ Sigma 가 Synthalenes

Amerchol

JR400™

가 4

, Luviquat™(S

ASF) 4 / , ,  
 가 (Lamequat™L/Grunau) 4 , 4 ,  
 , (Cartaretine™/Sandoz), (Merquat™550/Chemviron),  
 FR 2252840 A , 가 ,  
 4 , -  
 - 1,3 - , Celanese 가 Jaguar™ CBS, Jaguar™  
 C - 17, Jaguar™ C - 16 , Miranol 가 Mirapol™A - 15, Mirapol™AD - 1,  
 Mirapol™AZ - 1 4 가 .

, , : /  
 , / / , 가 가 ,  
 / / /3  
 /2 - , /  
 , / ,  
 .  
 , , , /  
 . 200 300  
 (simethicone) . [T  
 odda ,Cosm. Toil.9191, 27(1976)] .

, (candellila wax), (carnauba wax),  
 , (espartogras wax), , (guaruma wax),  
 , (ouricury wax), , (schellak wax), ( ), (burz  
 el fat), (ceresin), (ozokerit; terrestrial wax), ,  
 ; , (sasot wax), (hydrogenated yoyoba wax)  
 ( ) , .

(biogenic active substance)

, AHA , ,



· -1,3- , 1 - (4 - 3 - ) - 3 - (4' - ) - -1,3- ;

· EP - B1 06945521 (5,2,1,0) - .

:

· 2 - -5 - , , , , ;

· , 2 - -4 - -5 - ;

· 3 - , 4 - (2 - -3 - ) - 2 - -5 - (2 - - ) .

UV - A 1 - (4' - 3 - ) - 3 - (4' - ) -1,3- , 4 - 3 - 4' - ) - (Parsol 1798), 1 - -3 - (4' - - -1,3- . , UV - A UV - B

가 .

가 , .

( ) ,

100 nm , 5 50 n

m, 15 30 nm

(sun protecting agent)

가

[P. Finkel,SOFW - Journal 122,543(1996)]

1  
 2  
 ) ( , ) , D,L - , D - , L -  
 ( , ) ( , - , - )  
 ( , , , , , , , , , , n - , , , , , ,  
 , , , , , - , , )  
 , , , , ) ( , pmol μ mol/kg)  
 ( , - , , , , , , , - , - , - , , ) , ( )  
 ( , - , , , , , , , ) , - ( , , , , , ) ,  
 , , , , , , (bifiverdin), EDTA, EGTA ,  
 ( , - , , , , ) , (ubichinon)  
 C ( , , Mg - ) , ( , E  
 ) , A ( A ) , (koniferyl)  
 , - , (ferula acid),  
 (guajak) , (guajaret)  
 , ( , ZnO, ZnSO<sub>4</sub> ) ,  
 ( , - ) , ( , - ) ,  
 )가 .

가  
 :  
 . ;  
 . 10  
 0 1,000 ;  
 . 1.5 10 , 40 50 %  
 ;  
 . ;  
 . 가 1 8 ;  
 . 5 12 ;  
 . 5 12 ;  
 . ;  
 . , 2 - - 1,3 - .

(cosmetic regulation) 6 A B (part) N,N - m -  
 , 1,2 - 3535가 (self tanning agent)  
 (perfume oil) ( , , ) ( , , ) ( , , )  
 , ) , ( , , ) , ( , , )  
 , , ) , ( , , , , ) , ( , , , )  
 , ) , 가 ( , , , , ) , ( , , , )  
 , , , , ) , (zibet) (castoreum)  
 가  
 , p - 3 - (linalyl)  
 , 가 가  
 8 18 (alkanale),  
 (bourgeonal)  
 (balsam)  
 (juniper berr  
 y) (vetiver oil),  
 가 (dihydromyccenol), (lilial), (lyral),  
 (boisam  
 brene forte),  
 (cyclovertal), (muskateller sage oil),  
 (vertofix coeur), - E - NP, (evemyl),  
 (iraidein gamma), t (romi  
 llate), (irotyl) (floramate) 가

["Kosmetische Farbem  
 ittel" (cosmetic dyes) of the " Farbstoffkommission der Deutschen Forschungsgemeinschaft", Verlag Chem  
 ie , Weinheim, 1984, p.81 - 106]  
 0.001 0.1 %

- 2' - (1,6 - - (4 - - ) 2,4,4' -  
 )가 가 TCC - (3,4,4' -  
 (deo) (lime flower)  
 (3,7,11 - - 2,6,10 - - 1 - )  
 가 (bacteriostaticum)  
 0.1 2 %

가 1 50 %, 5 40 %  
(phase inversion temperature method)

( , 100 % )

(INCI)	1	2	3	4	5	6	7	8	9	10
Texapon™NSO	-	-	-	-	-	-	38.0	38.0	25.0	-
Texapon™SB 3	-	-	-	-	-	-	-	-	10.0	-
Plantacare™818	-	-	-	-	-	-	7.0	7.0	6.0	-
Plantacare™PS 10 ( )	-	-	-	-	-	-	-	-	-	16.0
Dehyton™PK 45	-	-	-	-	-	-	-	-	10.0	-
Dehyquart™A	2.0	2.0	2.0	2.0	4.0	4.0	-	-	-	-
Dehyquart™80 ( )	1.2	1.2	1.2	1.2	0.6	0.6	-	-	-	-
Eumulgin™B2Cetareth - 20	0.8	0.8	-	0.8	-	1.0	-	-	-	-
Eumulgin™VL 75 ( ) -2 ( )	-	-	0.8	-	0.8	-	-	-	-	-
Lanette™O	2.5	2.5	2.5	2.5	3.0	2.5	-	-	-	-
Cutina™GMS	0.5	0.5	0.5	0.5	0.5	1.0	-	-	-	-
Cetiol™HEPEG - 7	1.0	-	-	-	-	-	-	-	1.0	-
Cetiol™PGL ( )	-	1.0	-	-	1.0	-	-	-	-	-
Cetiol™V	-	-	-	1.0	-	-	-	-	-	-
Eutanol™G	-	-	1.0	-	-	1.0	-	-	-	-
Nutrilan™Keratin W가	-	-	-	2.0	-	-	-	-	-	-
Lamesoft™LMG ( ) 가	-	-	-	-	-	-	3.0	2.0	4.0	-
Euperlan™PK 3000 AM ( ) -4( )	-	-	-	-	-	-	-	3.0	5.0	5.0
Generol™122 N	-	-	-	-	1.0	1.0	-	-	-	-
Highcareen™GS	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
70000	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Copherol™12250	-	-	0.1	0.1	-	-	-	-	-	-
Arthpon™FLaureth - 2	-	-	-	-	-	-	3.0	3.0	1.0	-
	-	-	-	-	-	-	-	1.5	-	1.5

(1 - 4) , (5 - 6) , (7 - 8) , (9) , (10)

1

( , 100 % )( )

(INCI)	11	12	13	14	15	16	17	18	19	20
Texapon™NSO (laureth.)	20.0	20.0	12.4	-	25.0	11.0	-	-	-	-
Texapon™K 14 S (myreth.)	-	-	-	-	-	-	-	-	11.0	23.0
Texapon™SB 3	-	-	-	-	-	7.0	-	-	-	-
Plantacare™818	5.0	5.0	4.0	-	-	-	-	-	6.0	4.0
Plantacare™2000	-	-	-	-	5.0	4.0	-	-	-	-
Plantacare™PS 10 ( )	-	-	-	40.0	-	-	16.0	17.0	-	-
Dehyton™PK 45	20.0	20.0	-	-	8.0	-	-	-	-	7.0
Eumulgin™B2 Cetareth - 20	-	-	-	1.0	1.0	-	-	-	-	-
Lameform™TGI - 3 -	-	-	-	4.0	-	-	-	-	-	-
Dehymuls™PGPH - 2	-	-	1.0	-	-	-	-	-	-	-
Monomuls™90 - L 12	-	-	-	-	-	-	-	-	-	1.0
Cutina™GMS	-	-	-	-	-	-	-	-	1.0	-
Cetiol™HEPEG - 7	-	0.2	-	-	-	-	-	-	-	-
Eutanol™G	-	-	-	3.0	-	-	-	-	-	-
Nutrilan™Keratin W가	-	-	-	-	-	-	-	-	2.0	2.0
Nutrilan™I 가	1.0	-	-	-	-	2.0	-	2.0	-	-
Lamesoft™LMG ( ) 가	-	-	-	-	-	-	-	-	1.0	-
Lamesoft™156 (tallow) ( ) 가	-	-	-	-	-	-	-	-	-	5.0
Glaudin™WK 가	1.0	1.5	4.0	1.0	3.0	1.0	2.0	2.0	2.0	-
Euperlan™PK 3000 AM ( ) - 4( )	5.0	3.0	4.0	-	-	-	-	3.0	3.0	-
	-	-	1.0	-	-	-	-	-	-	-
Highcareen™GS	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
70000	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Arlypon™F Laureth - 2	2.6	1.6	-	1.0	1.5	-	-	-	-	-
	-	-	-	-	-	1.6	2.0	2.2	-	3.0
(86 %)	-	5.0	-	-	-	-	-	1.0	3.0	-

(11 - 14) " - - " (shower bath " two - in - one" , (15 - 20)

1

( , 100 % )( 2)

(INCI)	21	22	23	24	25	26	27	28	29	30
Texapon™NSO	-	30.0	30.0	-	25.0	-	-	-	-	-
Plantacare™818	-	10.0	-	-	20.0	-	-	-	-	-
Plantacare™PS 10 ( )	22.0	-	5.0	22.0	-	-	-	-	-	-
Dehyton™PK45	15.0	10.0	15.0	15.0	20.0	-	-	-	-	-
Emulgade™SE ( ) (cereareth.)12/ 20( ) ( )	-	-	-	-	-	5.0	5.0	4.0	-	-
Eumulgin™B1Cetareth - 12	-	-	-	-	-	-	-	1.0	-	-
Lameform™TGI - 3	-	-	-	-	-	-	-	-	4.0	-
Dehymuls™PGPH - 2	-	-	-	-	-	-	-	-	-	4.0
Monomuls™90 - O 18	-	-	-	-	-	-	-	-	2.0	-
Cetiol™HEPEG - 7	2.0	-	-	2.0	5.0	-	-	-	-	2.0
Cetiol™OE	-	-	-	-	-	-	-	-	5.0	6.0
Cetiol™PGL ( )	-	-	-	-	-	-	-	3.0	10.0	9.0
Cetiol™SN	-	-	-	-	-	3.0	3.0	-	-	-
Cetiol™V	-	-	-	-	-	3.0	3.0	-	-	-
Myritol™318	-	-	-	-	-	-	-	3.0	5.0	5.0
	-	-	-	-	-	-	-	-	7.0	5.0
Nutrilan™Elastin E20가	-	-	-	-	-	2.0	-	-	-	-
Nutrilan™I - 50가	-	-	-	-	2.0	-	2.0	-	-	-
Glaudin™AGP가	0.5	0.5	0.5	-	-	-	-	0.5	-	-
Glaudin™WK 가	2.0	2.0	2.0	2.0	5.0	-	-	-	0.5	0.5
Euperlan™PK 3000 AM ( ) - 4( )	5.0	-	-	5.0	-	-	-	-	-	-
Highcareen™GS	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
70000	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	-	-	-	-	-	-	-	-	1.0	1.0
(86 %)	-	-	-	-	-	3.0	3.0	5.0	5.0	3.0

(21 - 25) , (26) , (27, 28) , (29, 30) .

1

( , 100 % )( 3)

(INCI)	31	32	33	34	35	36	37	38	39	40
Dehymuls™PGPH - 2	4.0	3.0	-	5.0	-	-	-	-	-	-
Lameform™TGI - 3	2.0	1.0	-	-	-	-	-	-	-	-
Emulgade™PL 68/50 ( )	-	-	-	-	4.0	-	-	-	3.0	-
Eumulgin™B2 Cetearch - 20	-	-	-	-	-	-	-	2.0	-	-
Tegocare™PS - 3	-	-	3.0	-	-	-	4.0	-	-	-
Emulgin VL75 - 2 ( )	-	-	-	-	-	3.5	-	-	2.5	-
	3.0	2.0	5.0	2.0	-	-	-	-	-	-
Cutina™GMS	-	-	-	-	-	2.0	4.0	-	-	4.0
Lanette™O	-	-	2.0	-	2.0	4.0	2.0	4.0	4.0	1.0
Antaron™V216PVP/	-	-	-	-	-	3.0	-	-	-	2.0
Myritol™818	5.0	-	10.0	-	8.0	6.0	6.0	-	5.0	5.0
Finsolv™TNC12/15	-	6.0	-	2.0	-	-	3.0	-	-	2.0
Cetiol™J 600	7.0	4.0	3.0	5.0	4.0	3.0	3.0	-	5.0	4.0
Cetiol™OE	3.0	-	6.0	8.0	6.0	5.0	4.0	3.0	4.0	6.0
	-	4.0	-	4.0	-	2.0	-	1.0	-	-
Cetiol™PGL ( )	-	7.0	3.0	7.0	4.0	-	-	-	1.0	-
/	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Highcareen™GS	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
70000	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Copherol™F 1300 /	0.5	1.0	1.0	2.0	1.0	1.0	1.0	2.0	0.5	2.0
Neo Heliopan™Hydro	3.0	-	-	3.0	-	-	2.0	-	2.0	-
Neo Heliopan™303	-	5.0	-	-	-	4.0	5.0	-	-	10.0
Neo Heliopan™BB - 3	1.5	-	-	2.0	1.5	-	-	-	2.0	-
Neo Heliopan™E 1000 p-	5.0	-	4.0	-	2.0	2.0	4.0	10.0	-	-
Neo Heliopan™AV	4.0	-	4.0	3.0	2.0	3.0	4.0	-	10.0	2.0
									0	
Uvinul™T 150	2.0	4.0	3.0	1.0	1.0	1.0	4.0	3.0	3.0	3.0
	-	6.0	6.0	-	4.0	-	-	-	-	5.0
	-	-	-	-	-	-	-	5.0	-	-
(86 %)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

(31) W/O , (32 - 34) W/O , (35,38,40) O/W , (36,37,39) O/W

(57)

1.

(a) - (1,6) - (1,3) ,

(b) ( ) /

2.

1 , (Saccharomyces)

3.

1 / 2 , - (1,3) - (1,6) - (1,6)  
 - (1,6) .

4.

3 , (Trichoderma harzianum)  
 .

5.

1 4 , ( ) .

6.

1 5 , 40,000 1,000,000 ( )  
 .

7.

1 6 , 가 .

8.

1 5 ,

(a) - (1,6) 0.01 25 % - (1,3) ,

(b) 0.01 5 % ( ) ,

(c) 0 8 % , 가  
 100 % .