

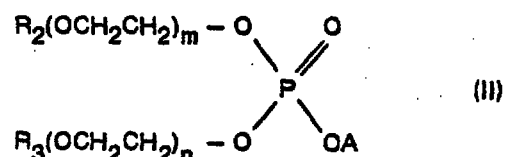
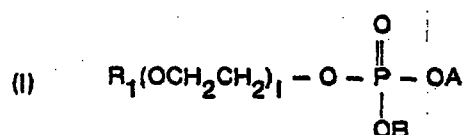
Field of the Invention:

Description of the Prior Art:

Recently, it has been proposed to use a phosphoric ester surfactant, which is a kind of anionic surface active agents, for a cleansing composition, as it is an extremely mild surface active agent which gives little irritation to the skin. However, if this phosphoric ester surfactant is incorporated along with the above mentioned other components, the resulting creamy cleansing composition tends to have an inferior cleansing power and less stability and it is likely to undergo separation in a relatively short period of time.

Accordingly, the present inventors have conducted extensive researches to obtain a creamy cleansing composition which maintains excellent mildness and superior cleansing power of the phosphoric ester surfactant and which is stable for a long period of time, and have found that it is possible to obtain a stable creamy cleansing composition, which undergoes little change in its viscosity irrespective of the temperature, without impairing the desirable characteristics which the phosphoric ester surfactant inherently possesses, by combining the phosphoric ester surfactant with an organic or inorganic salt, polyethylene glycol and an ethylene oxide addition type non-ionic or cationic surface active agent and using the combined material as the major constituent of the creamy cleansing composition.

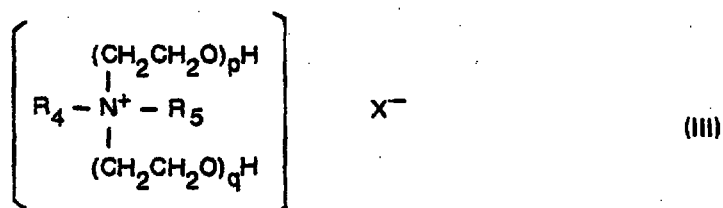
(A) from 10 to 60% by weight of one or more phosphoric ester surfactants represented by the general formulas (I) or (II).



(B) from 0.5 to 15% by weight of an organic or inorganic salt,

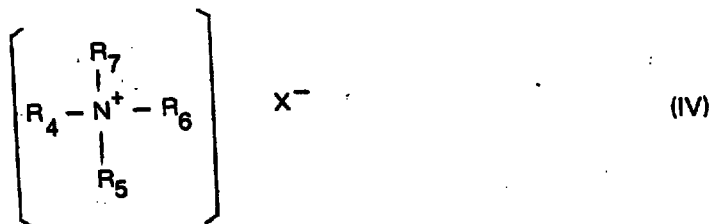
(C) from 0.5 to 15% by weight of polyethylene glycol having a molecular weight of from 4,000 to 10,000, and

(D) a surface active agent selected from the group consisting of (1) from 0.1 to 15% by weight of an ethylene oxide (at least 50 moles) addition type non-ionic surface active agent, (2) from 0.05 to 10% by weight of a cationic surface active agent represented by the general formula (III),



where R_1 represents a saturated or unsaturated hydrocarb

R_5 represents a methyl group or an ethyl group, X represents a halogen atom, and each of p and q represents an integer of from 1 to 15, and (3) from 0.05 to 10% by weight of a cationic surface active agent represented by the general formula (IV).



where R_5 represents a methyl group or an ethyl group, R_7 represents a saturated or unsaturated hydrocarbon group having from 8 to 18 carbon atoms, and R_4 , R_6 and X have the same meanings as defined above.

DETAILED DESCRIPTION OF THE INVENTION

The phosphoric ester surfactants as the component (A) of the present invention, may each be used alone or in combination as a mixture of each of the compounds represented by the formulas (I) and (II). Preferred is a mixture of the compounds of the formula (I) and the compounds of the formula (II) in a weight ratio of from 100:0 to 50:50. Further, the compounds of the formulas (I) and (II) wherein l, m or n is 0, are preferred. Particularly preferred are, for instance, sodium mono- or di-lauryl phosphate, potassium mono- or di-laurylphosphate, diethanolamine mono- or di-lauryl phosphate, triethanolamine mono- or di-laurylphosphate, sodium mono- or di-myristylphosphate, potassium mono- or dimyristylphosphate, triethanolamine mono- or di-myristylphosphate, sodium mono- or di-oleylphosphate, potassium mono- or di-oleylphosphate, diethanolamine mono- or di-oleylphosphate, triethanolamine mono- or di-oleylphosphate, sodium mono- or di-palmitylphosphate, potassium mono- or dipalmitylphosphate, triethanolamine mono- or di-palmitylphosphate, sodium mono- or di-stearylphosphate, potassium mono- or distearylphosphate, triethanolamine mono- or di-stearylphosphate.

The phosphoric ester surfactants of the component (A) are incorporated in the creamy cleansing compositions in an amount of from 10 to 60% by weight (hereinafter referred to simply as %), preferably from 25 to 45%.

As the organic or inorganic salt as the component (B) of the present invention, there may be mentioned a salt of, for instance, an organic acid such as a carboxylic or hydroxycarboxylic acid e.g. citric acid, oxalic acid, malic acid, succinic acid, lactic acid, or tartaric acid, or an inorganic acid such as hydrochloric acid, hydrobromic acid, nitric acid, sulfuric acid, carbonic acid, phosphoric acid, or thiocyanic acid. As the cation which forms the salts, there may be mentioned an alkali metal such as sodium, potassium, or lithium; an alkaline earth metal such as calcium, or magnesium; or aluminum or ammonium. As the component (B), inorganic salts are superior, in effectiveness, to organic salts. Particularly suitable are alkali metal salts or ammonium salts. Preferred salts are, for instance, sodium chloride, potassium chloride, lithium chloride, sodium bromide, ammonium chloride, sodium nitrate, sodium sulfate, sodium carbonate, sodium monohydrogenphosphate, sodium dihydrogenphosphate, and sodium thiocyanate.

The organic or inorganic salts of the component (B) are incorporated alone or in combination of two or more, in the creamy cleansing compositions in an amount of from 0.5 to 15% preferably from 3 to 12%.

The polyethylene glycol having a molecular weight of from 4,000 to 10,000, as the component (C) of the present invention, is incorporated in the creamy cleansing composition in an amount of from 0.5 to 15%, preferably from 2 to 13%.

As the ethylene oxide addition type non-ionic surface active agents which are used as the component (D) of the present invention, adducts which contains at least 50 moles, in an average, of addition-polymerized ethylene oxide are used. Preferred are, for instance, the following:

- (a) a polyoxyethylene (from 80 to 200) alkyl or alkenyl ether, where the number in the parentheses represents an average of moles of addition-polymerized ethylene oxide, and the alkyl group or the alkenyl group has, in an average, from 8 to 20 carbon atoms,
- (b) a polyoxyethylene (from 80 to 200) mono- or di-higher saturated or unsaturated fatty acid ester, where the number in the parentheses has the same meaning as defined above, and the fatty acid has, in an average, from 8 to 20 carbon atoms,
- (c) a polyoxyethylene (from 60 to 150) castor oil or hydrogenated castor oil, where the number in the parentheses has the same meaning as defined above, and
- (d) a polyoxyethylene (from 50 to 100) mono- or di-higher saturated or unsaturated fatty acid sorbitan ester, where the number in the parentheses has the same meaning as defined above and the fatty acid has, in an average, from 8 to 20 carbon atoms.

Further, the cationic surface active agents represented by the above general formulas (III) and (IV), which are used as the component (D) of the present invention, may be used alone or in combination with a mixture of two or more. Preferred compounds of the formula (III) are, for instance, myristyl dipolyoxy-

ethylene methylammonium chloride or bromide ($p + q = 6$ to 20), myristyl dipolyoxyethylene ethylammonium chloride or bromide ($p + q = 6$ to 20), palmityl dipolyoxyethylene methylammonium chloride or bromide ($p + q = 6$ to 20), palmityl dipolyoxyethylene ethylammonium chloride or bromide ($p + q = 6$ to 20) and stearyl dipolyoxyethylene methylammonium chloride or bromide ($p + q = 6$ to 20). Preferred compounds of the formula (IV) are, for instance, dilauryl dimethylammonium chloride or bromide, dimyristyl dimethylammonium chloride or bromide, dipalmityl dimethylammonium chloride or bromide, and distearyl dimethylammonium chloride or bromide. Particularly preferred among these cationic surface active agents, are ethylene oxide addition dialkyl type cationic surface active agents.

The selected surface active agent of the component (D) is incorporated in the creamy cleansing composition in an amount of from 0.1 to 15% , preferably from 1 to 12% , in the case of the ethylene oxide addition type non-ionic surface active agents, and in an amount of from 0.05 to 10% , preferably from 0.2 to 7% , in the case of the cationic surface active agents.

The production of the creamy cleansing composition of the present invention is not restricted to any special process, and the composition may readily be prepared according to usual processes. For example, the following method may be mentioned as a preferred process. Namely, the phosphoric ester surfactant is mixed with water, and heated and stirred to form a homogeneous mixture. The mixture is then heated to a temperature of from 60 to 80°C , and added thereto are polyethylene glycol and the ethylene oxide addition type non-ionic surface active agent. After stirring for a while, the mixture is gradually cooled, while stirring, down to room temperature, whereupon the creamy cleansing composition is obtained. The whole operation should preferably be carried out under a reduced pressure so as to prevent formation of foams.

Further, the pH of the creamy cleansing compositions of the present invention, should most preferably be within a range of from 6 to 8 in view of their foaming and irritative characteristics.

Further, it is possible to incorporate into the creamy cleansing compositions of the invention, such additives as colouring substances, perfumes, bacteriocides, antiphlogistics, chelating agents, viscosity regulating agents, foaming agents, antiseptics, wetting agents, and other kinds of surface active agents, as the case requires.

Thus prepared creamy cleansing compositions are gentle to the skin and hair and stable for a long period of time.

Now, the invention will be described in further detail with reference to Examples. However, it should be understood that the present invention is not limited by these Examples.

Example 1

Creamy cleansing compositions (pH 7.0) having such compositions as shown in Tables 1—A and 1—B were prepared and left to stand for 60 days. Then, the separation stability of the pastes was investigated. The results obtained are shown in Tables 2—A and 2—B.

TABLE 1 - A

Components		Sodium monolauryl- phosphate	Sodium dilauryl- phosphate	Sodium chloride	Polyethylene glycol (Molecular weight: 6,000)	Polyoxy- ethylene (100) monopalmitate	Water
Creamy cleansing compositions	1	28(%)	9(%)	6(%)	5(%)	2(%)	Balance
	2	28	9	8	4	2	"
	3	28	9	10	4	1	"
	4	28	9	8	2	4	"
Products of the present invention	5	28	9	0	5	2	"
	6	28	9	0	8	5	"
	7	28	9	6	0	2	"
	8	28	9	6	0	7	"
	9	28	9	6	5	0	"
	10	28	9	6	7	0	"
Comparative products							

TABLE 1 - B

Components		Sodium monolauryl- phosphate	Sodium dilauryl- phosphate	Sodium chloride	Polyethylene glycol (Molecular weight: 6,000)	Palmityl dipolyoxy- ethylene methyl- ammonium chloride (p + q = 10)	Water
Creamy cleansing compositions	11 12 13 14	(% by weight)					
		28	9	4	7	3	Balance
Products of the present invention	12	28	9	6	6	2	"
	13	28	9	8	4	2	"
	14	28	9	10	4	1	"
	15	28	9	0	7	3	"
	16	28	9	0	9	5	"
	17	28	9	7	0	3	"
	18	28	9	7	0	7	"
Comparative products	19	28	9	7	4	0	"
	20	28	9	7	7	0	"

TABLE 2 - A

		Separation stability (after being left to stand for 60 days)		
		5°C	25°C	40°C
Products of the present invention	1	o	o	o
	2	o	o	o
	3	o	o	o
	4	o	o	o
Comparative products	5	x	x	x
	6	x	x	x
	7	x	x	x
	8	x	x	x
	9	x	x	x
	10	x	x	x

TABLE 2 - B

		Separation stability of pastes		
		5°C	20°C	40°C
Products of the present invention	11	o	o	o
	12	o	o	o
	13	o	o	o
	14	o	o	o
Comparative products	15	x	x	x
	16	x	x	x
	17	x	x	x
	18	x	x	x
	19	o	x	x
	20	o	x	x

Evaluation standards for the separation stability.

o: No change is observed in the state of the paste.

x: Separated liquid is observed.

It is apparent from the results shown in Table 2 that in case any one of the components (A) to (D) of the present invention is lacking the composition lacks in stability and no satisfactory creamy cleansing composition is obtainable.

Example 2

With respect to the creamy cleansing compositions listed in Table 1—A of Example 1, the hardness of the respective pastes was measured. The results obtained are shown in Table 3.

TABLE 3

Creamy cleansing compositions		Hardness of pastes (ranking)		
		5°C	20°C	40°C
Products of the present invention	1	D	C	B
	2	D	C	B
	3	D	C	B
	4	D	C	B
Comparative products	5	—	—	—
	6	—	—	—
	7	—	—	—
	8	—	—	—
	9	E	—	—
	10	E	—	—

Evaluation standards for the hardness of the pastes:

With use of a penetrometer, penetration of the needle into the paste (mm) was measured after the loading period of time of 5 seconds and the standards for the hardness were determined and ranked as follows:

TABLE 4

Ranking	Degree of the hardness	Penetration of the needle P (mm)
A	Soft	$10 < P$
B	Slightly soft	$8 < P \leq 10$
C	Appropriate	$4 < P \leq 8$
D	Slightly hard	$2 < P \leq 4$
E	Hard	$0 \leq P \leq 2$

(Note) In the ranking, B to D indicate that when the paste is filled in a tube, it presents no practical problem in the squeezability and shape maintaining property. A indicates that the paste is too soft to maintain its shape. E indicates that the paste is too hard to squeeze out thus presenting a practical problem.

Example 3

The stability and hardness of the pastes due to changes in the molecular weight and the amounts of the polyethylene glycol, were investigated with use of the following creamy cleansing compositions (a) and (b). The results obtained are shown in Table 7.

Creamy cleansing composition (a):

Sodium monolaurylphosphate	28%
Sodium dilaurylphosphate	9
Sodium sulfate	6
Polyethylene glycol	(see Table 5)
Polyoxyethylene (140) monostearate	2
Sorbitol	6
Perfume	0.3
Water	Balance
(pH 7.0)	

TABLE 5

Creamy cleansing compositions	Molecular weights of polyethylene glycol	Amounts of polyethylene glycol (%)
a-1	1,000	10
a-2	2,000	10
a-3	4,000	10
a-4	6,000	0.4
a-5		1
a-6		3
a-7		10
a-8		15
a-9		20
a-10	10,000	10
a-11	15,000	10

Creamy cleansing composition (b):

Sodium monolaurylphosphate	30 (% by weight)
Sodium dilaurylphosphate	7
Sodium chloride	8
Polyethylene glycol	(see Table 6)
Stearyl dipolyoxyethylene methyl- ammonium chloride ($p + q = 14$)	2
Glycerin	6
Perfume	0.2
Water	Balance
(pH 7.0)	

TABLE 6

Creamy cleansing compositions	Molecular weights of polyethylene glycol	Amounts of polyethylene glycol (% by weight)
b-1	1,000	10
b-2	2,000	10
b-3	4,000	10
b-4	6,000	0.4
b-5		1
b-6		3
b-7		10
b-8		15
b-9		20
b-10	10,000	10
b-11	15,000	10

TABLE 7

Creamy cleansing compositions Nos.	Separation Stability of pastes*	Hardness of pastes** (ranking)
a-1	x	-
a-2	x	-
a-3	o	B
a-4	x	-
a-5	o	B
a-6	o	C
a-7	o	C
a-8	o	D
a-9	o	E
a-10	o	D
a-11	o	E
b-1	x	-
b-2	x	-
b-3	o	B
b-4	x	-
b-5	o	B
b-6	o	C
b-7	o	C
b-8	o	D
b-9	o	E
b-10	o	D
b-11	o	E

*The separation stability of the pastes was determined in accordance with the standards of Example 1, with respect to the state after being left to stand for 60 days at 40°C.

**The hardness of the pastes was determined in accordance with the standards of Example 2.

Example 4

The effect of various inorganic salts on the creamy cleansing compositions, is shown in Table 8.

Creamy cleansing composition (c):

5	Sodium monolaurylphosphate	28%
	Sodium monomyristylphosphate	10
10	Sodium mono-oleylphosphate	4
	Inorganic salt	(see Table 8)
15	Polyethylene glycol (Molecular weight: 8,000)	7
	Polyoxyethylene (160) dipalmitate	5
	Glycerin	10
20	Perfume	0.3
	Water	Balance
25	(pH 7.5)	

Creamy cleansing composition (d):

30	Sodium monolaurylphosphate	28 (% by weight)
	Sodium monomyristylphosphate	10
	Sodium mono-oleylphosphate	4
35	Salt	(see Table 8)
	Polyethylene glycol (Molecular weight: 8,000)	7
40	Myristyl dipolyoxyethylene methyammonium chloride (p + q = 10)	3
	Dipalmityl dimethylammonium chloride	0.5
45	Glycerin	1.0
	Perfume	0.3
50	Water	Balance
	(pH 7.9)	

55

60

65

TABLE 8

Salts	Creamy cleansing composition (c)			Creamy cleansing composition (d)		
	Amounts (% by weight)	Separation stability of pastes	Hardness of pastes (ranking)	Amounts (% by weight)	Separation stability of pastes	Hardness of pastes (ranking)
Potassium chloride	5	0	C	6	0	C
Lithium chloride	5	0	C	6	0	C
Sodium bromide	5	0	C	6	0	C
Ammonium chloride	5	0	C	6	0	C
Sodium nitrate	5	0	C	6	0	C
Sodium sulfate	5	0	C	6	0	C
Sodium carbonate	5	0	C	6	0	C
Disodium hydrogen- phosphate	5	0	C	6	0	C
Sodium dihydrogen- phosphate	5	0	C	6	0	C
Sodium thiocyanate	5	0	C	6	0	C
Sodium citrate	5	0	B	6	0	C
Sodium chloride	0.3	x	A	0.3	0	A
"	0.7	0	B	0.7	0	B
"	15	0	D	15	0	D
"	20	0	E	20	0	E

(Note) The separation stability of the pastes was determined with respect to the state after being left to stand for 60 days at 40°C, and the hardness of the pastes was determined with respect to the state after being left to stand for 60 days at 20°C, in accordance with the standards indicated in Example 2.

Example 5

The effect of various cationic surface active agents on the creamy cleansing compositions, is shown in Table 9.

5 Creamy cleansing composition:

	Sodium monolaurylphosphate	28 (% by weight)
	Sodium dilaurylphosphate	5
10	Sodium polyoxyethylene (3) monolauryl phosphate	5
	Sodium sulfate	8
15	Polyethylene glycol (Molecular weight: 6,000)	6
	Cationic surface active agent	(see Table 9)
20	Sorbitol	10
	Perfume	0.2
25	Water	Balance
	(pH 6.5)	

TABLE 9

	Cationic surface active agents	Amounts (% by weight)	Separation stability of pastes	Hardness pastes (ranking)
35	Palmityl dipolyoxyethylene Methylammonium chloride (p + q = 16)	0.04	x	-
	"	0.2	o	B
	"	2	o	C
40	"	5	o	C
	"	12	o	E
	Lauryl dipolyoxyethylene methylammonium bromide (p + q = 20)	2	o	C
45	Myristyl dipolyoxyethylene methylammonium chloride (p + q = 6)	2	o	C
	Stearyl dipolyoxyethylene methylammonium chloride (p + q = 10)	2	o	C
50	Palmityl dipolyoxyethylene ethylammonium bromide (p + q = 8)	2	o	C
	Dilauryl dimethylammonium chloride	2	o	C
55	Distearyl dimethylammonium chloride	2	o	C
	Dimyristyl dimethylammonium bromide	2	o	C
60	Stearyl trimethylammonium chloride	2	x	-
	Palmityl trimethylammonium bromide	2	x	-
65	Benzyl lauryl methylammonium chloride	2	x	-

Example 6

The effect of various non-ionic surface active agents on the creamy cleansing compositions, is shown in Table 10.

5 Creamy cleansing composition:

	Sodium monolaurylphosphate	40 (%)
	Sodium chloride	7
10	Polyethylene glycol (Molecular weight: 6000)	4
	Non-ionic surface active agent	(see Table 10)
15	Sorbitol	6
	Water	Balance
20	(pH 6.7)	

(Note) The separation stability of the pastes was determined with respect to the state after being left to stand for 60 days at 40°C, and the hardness of the pastes was determined with respect to the state after being left to stand for 60 days at 20°C, in accordance with the standards identified in Example 2.

TABLE 10

30	Non-ionic surface active agents	Amounts (%)	Separation stability of pastes*	Hardness of pastes
	$C_{12}H_{25}O(C_2H_4O)_6H$	5	x	—
35	$C_{18}H_{37}O(C_2H_4O)_{40}H$	5	x	—
	$C_{15}H_{31}COO(C_2H_4O)_{10}H$	5	x	—
40	$C_{15}H_{31}COO(C_2H_4O)_{30}H$	5	x	—
	$C_{17}H_{35}COO(C_2H_4O)_{40}H$	5	x	—
45	Polyoxyethylene (20) hydrogenated castor oil	5	x	—
	Polyoxyethylene (20) monopalmitic acid sorbitan ester	5	x	—
	Monostearic acid sorbitan ester	5	x	—
50	Distearic acid sorbitan ester	5	x	—
	Polyoxyethylene (80) dilauric acid sorbitan ester	5	o	C
55	Polyoxyethylene (80) hydrogenated castor oil	5	o	C
	Polyoxyethylene (80) monostearic acid sorbitan ester	5	o	C
	$C_{18}H_{37}O(C_2H_4O)_{120}H$	5	o	C
60	Polyoxyethylene (50) monopalmitic acid sorbitan ester	5	o	C
	Polyoxyethylene (50) monopalmitic acid sorbitan ester	20	o	E

65 *After being left to stand for 60 days at 40°C.

Example 7

Creamy cleansing compositions having the following compositions, were prepared.

5	(i) Sodium monolaurylphosphate	27 (%)
	Potassium monomyristylphosphate	5
	Potassium dimyristylphosphate	2
10	Sodium polyoxyethylene (3) monolaurylether phosphate	5
	Sodium sulfate	4
15	Polyoxyethylene glycol (Molecular weight: 4,000)	8
	Polyoxyethylene (140) distearate	3
20	Glycerin	7
	Perfume, colouring agent, and antiseptics	Appropriate amounts
25	Water	Balance
	(pH 7.6)	

30	(ii) Potassium polyoxyethylene (4) (myristylether phosphate (mono/di = 2/1))	45
35	MIRANOL* C2M (Amphoteric surface active agent made by MIRANOL CO.)	5
40	Magnesium chloride	4
	Sodium chloride	8
45	Polyethylene glycol (Molecular weight: 8,000)	4
	Polyoxyethylene (100) monostearate	3
50	Glycerin	10
	Perfume and antiseptic	Appropriate amounts
55	Water	Balance
	(pH 6.9)	

* MIRANOL is a Registered Trade Mark.

	(iii) Sodium monolaurylphosphate	35
	Triethanolamine polyoxyethylene (4)	
5	lauryl ether phosphate (mono/di = 3/1)	10
	CARBOPOL* 941 (Carboxy vinyl polymer made by Goodrich Co.)	1
10	Sodium carbonate	8
	Polyethylene glycol (Molecular weight: 10,000)	5
15	Polyoxyethylene (80) hydrogenated castor oil	5
	Propylene glycol	10
20	Perfume and antiseptic	Appropriate amounts
	Water	Balance
25	pH (7.2)	

30	(iv) Sodium monolaurylphosphate	27 (% by weight)
	Potassium monomyristylphosphate	5
	Potassium dimyristylphosphate	2
35	Sodium polyoxyethylene (5) monolauryl ether phosphate	
	Sodium sulfate	5
40	Polyethylene glycol (Molecular weight: 4,000)	7
	Stearyl dipolyoxyethylene methylammonium chloride (p + q = 10)	1
45	Dilauryl dimethylammonium bromide	0.5
	Glycerin	8
50	Perfume, colouring agent and antiseptic	Appropriate amounts
	Water	Balance
55	(pH = 7.3)	

* CARBOPOL is a Registered Trade Mark.

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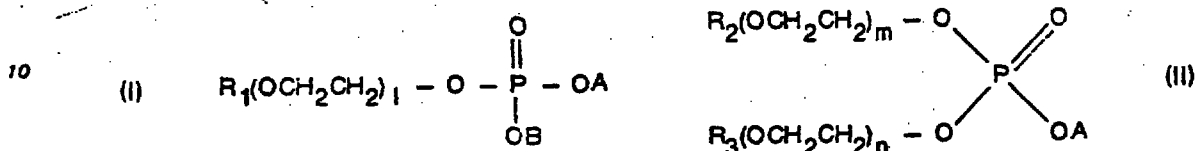
	(v) Lithium polyoxyethylene (4) myristylether phosphate (mono/di = 3/1)	2 (% by weight)
5	Lithium monolaurylphosphate	5
	Sodium monolaurylphosphate	28
	Sodium chloride	5
10	Polyethylene glycol (Molecular weight: 8,000)	6
	Lauryl dipolyoxyethylene methylammonium chloride (p + q = 8)	1
15	Silicic acid anhydride	0.5
	Polyoxyethylene (100) dipalmitate	0.5
20	Sorbitol	8
	Perfume, colouring agent and antiseptic	Appropriate amounts
25	Water (pH 7.0)	Balance
30	(vi) (Sodium monolaurylphosphate	40 (% by weight)
	Magnesium chloride	2
35	Lithium chloride	3
	MIRANOL C2M (Amphoteric surface active agent made by MIRANOL CO.)	2
40	Polyethylene glycol (Molecular weight: 6,000)	6
	Dimyristyl dimethylammonium chloride	3
45	Propylene glycol	8
	CARBOPOL 941 (Carboxy vinyl polymer made by Goodrich Co.)	0.5
50	Polyoxyethylene(100)monostearate	2
	Perfume, colouring agent and antiseptic	Appropriate amounts
55	Water (pH 7.6)	Balance
60		

Each of the creamy cleansing compositions thus prepared, was gentle to the skin and was stable without separation during storage for a long period of time.

Claims for the Contracting States: BE CH DE FR GB IT LI NL

1. A creamy cleansing composition comprising the following four components:

(A) from 10 to 60% by weight of one or more phosphoric ester surfactants represented by the general formulas (I) or (II),

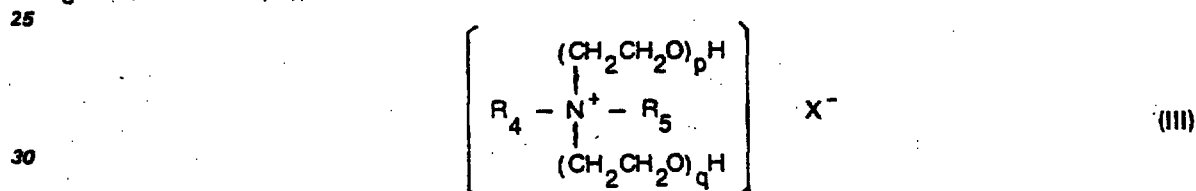


where each of R_1 , R_2 and R_3 represents a saturated or unsaturated hydrocarbon group having from 8 to 18 carbon atoms, each of A and B represents a hydrogen atom, an alkali metal, ammonium or an alkanolamine having 2 or 3 carbon atoms, and each of l , m , and n is 0 or an integer of from 1 to 10,

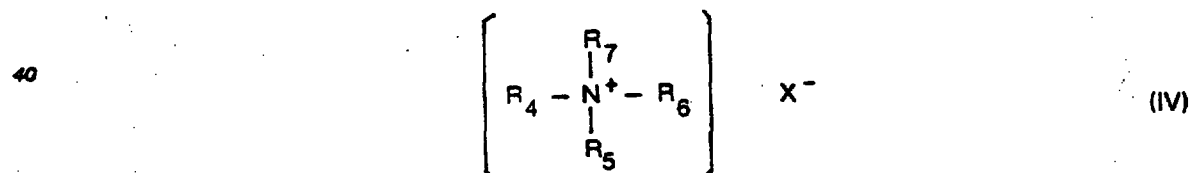
(B) from 0.5 to 15% by weight of an organic or inorganic salt,

(C) from 0.5 to 15% by weight of polyethylene glycol having a molecular weight of from 4,000 to 10,000, and

(D) a surface active agent selected from the group consisting of (1) from 0.1 to 15% by weight of an adduct containing at least 50 moles of an ethylene oxide addition polymerized non-ionic surface active agent, (2) from 0.05 to 10% by weight of a cationic surface active agent represented by the general formula (III),



where R_4 represents a saturated or unsaturated hydrocarbon group having from 8 to 18 carbon atoms, R_5 represents a methyl group or an ethyl group, X represents a halogen atom, and each of p and q represents an integer of from 1 to 15, and (3) from 0.05 to 10% by weight of a cationic surface active agent represented by the general formula (IV),



where R_6 represents a methyl group or an ethyl group, R_7 represents a saturated or unsaturated hydrocarbon group having from 8 to 18 carbon atoms, and R_4 , R_5 and X have the same meanings as defined above.

2. The creamy cleansing composition as claimed in claim 1, wherein the component (A) is a phosphoric ester surfactant selected from the group consisting of the compounds of the general formulas (I) and (II) where each of l , m and n is 0.

3. The creamy cleansing composition as claimed in claim 1 or 2, wherein the component (A) is a mixture of phosphoric ester surfactants composed of compounds of the general formula (I) and compounds of the general formula (II) in a weight ratio of from 100:0 to 50:50.

4. The creamy cleansing composition as claimed in any one of claims 1 to 3, wherein the component (B) is an organic or inorganic salt of an alkali metal or ammonium.

5. The creamy cleansing composition as claimed in any one of claims 1 to 4, wherein the component (B) is an inorganic salt.

6. The creamy cleansing composition as claimed in claim 5, wherein the inorganic salt is selected from the group consisting of sodium chloride, potassium chloride, lithium chloride, sodium bromide, ammonium chloride, sodium nitrate, sodium sulfate, sodium carbonate, sodium monohydrogenphosphate, sodium dihydrogenphosphate and sodium thiocyanate.

7. The creamy cleansing composition as claimed in any one of claims 1 to 6, wherein the non-ionic surface active agent of the component (D) is selected from the group consisting of (a) a polyoxyethylene (from 80 to 200) alkyl or alkenyl ether, where the number in the parentheses



represents an average of moles of addition-polymerized ethylene oxide, and the alkyl group or the alkenyl group has, in an average, from 8 to 20 carbon atoms,

(b) a polyoxyethylene (from 80 to 200) mono- or di-higher saturated or unsaturated fatty acid ester, where the number in the parentheses has the same meaning as defined above, and the fatty acid has, in an average, from 8 to 20 carbon atoms,

(c) a polyoxyethylene (from 60 to 150) castor oil or hydrogenated castor oil, where the number in the parentheses has the same meaning as defined above, and

(d) a polyoxyethylene (from 50 to 100) mono- or di-higher saturated or unsaturated fatty acid sorbitan ester, where the number in the parentheses has the same meaning as defined above and the fatty acid has, in an average, from 8 to 20 carbon atoms.

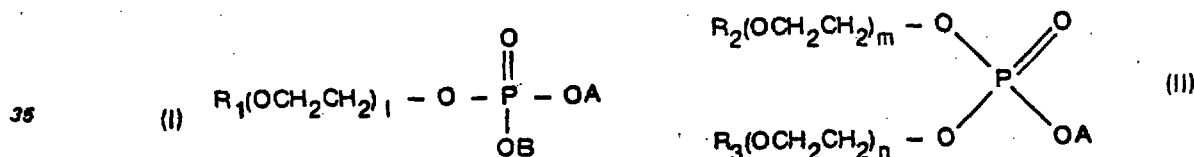
8. The creamy cleansing composition as claimed in any one of claims 1 to 6, wherein the cationic surface active agent represented by the general formula (III) as the component (D) is selected from the group consisting of myristyl dipolyoxyethylene methylammonium chloride or bromide ($p + q = 6$ to 20), a myristyl dipolyoxyethylene ethylammonium chloride or bromide ($p + q = 6$ to 20), a palmityl dipolyoxyethylene methylammonium chloride or bromide ($p + q = 6$ to 20), a palmityl dipolyoxyethylene ethylammonium chloride or bromide ($p + q = 6$ to 20) and a stearyl dipolyoxyethylene methylammonium chloride or bromide ($p + q = 6$ to 20).

9. The creamy cleansing composition as claimed in any one of claims 1 to 6, wherein the cationic surface active agent represented by the general formula (IV) as the component (D) is selected from the group consisting of dilauryl dimethylammonium chloride or bromide, dimyristyl dimethylammonium chloride or bromide, dipalmityl dimethylammonium chloride or bromide and distearyl dimethylammonium chloride or bromide.

25 Claims for the Contracting State: AT

1. A method for the production of a creamy cleansing composition which comprises admixing the following four components

(A) from 10 to 60% by weight of one or more phosphoric ester surfactants represented by the general formulas (I) or (II),

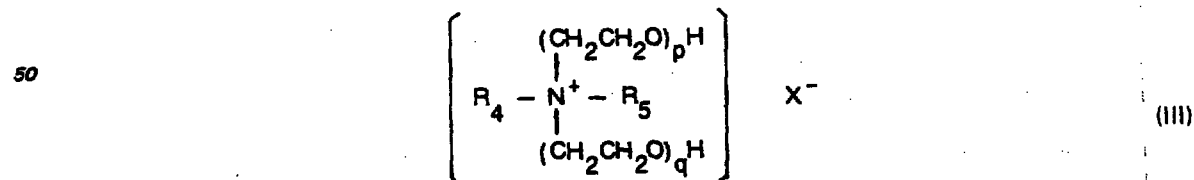


where each of R_1 , R_2 and R_3 represents a saturated or unsaturated hydrocarbon group having from 8 to 18 carbon atoms, each of A and B represents a hydrogen atom, an alkali metal, ammonium or an alkanolamine having 2 or 3 carbon atoms, and each of l, m, and n is 0 or an integer of from 1 to 10,

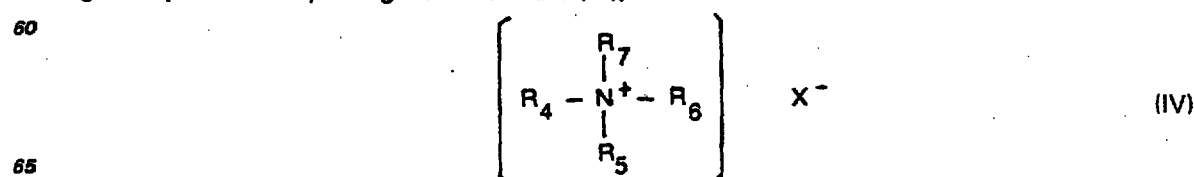
(B) from 0.5 to 15% by weight of an organic or inorganic salt,

(C) from 0.5 to 15% by weight of polyethylene glycol having a molecular weight of from 4,000 to 10,000, and

(D) a surface active agent selected from the group consisting of (1) from 0.1 to 15% by weight of an ethylene oxide (at least 50 moles) addition type non-ionic surface active agent, (2) from 0.05 to 10% by weight of a cationic surface active agent represented by the general formula (III),



where R_4 represents a saturated or unsaturated hydrocarbon group having from 8 to 18 carbon atoms, R_5 represents a methyl group or an ethyl group, X represents a halogen atom, and each of p and q represents an integer of from 1 to 15, and (3) from 0.05 to 10% by weight of a cationic surface active agent represented by the general formula (IV),



where R_6 represents a methyl group or an ethyl group, R_7 represents a saturated or unsaturated hydrocarbon group having from 8 to 18 carbon atoms, and R_4 , R_5 and X have the same meanings as defined above.

2. A method as claimed in claim 1, wherein the component (A) is a phosphoric ester surfactant selected from the group consisting of the compounds of the general formulas (I) and (II) where each of l, m and n is 0.

3. A method as claimed in claim 1 or 2, wherein the component (A) is a mixture of phosphoric ester surfactants composed of compounds of the general formula (I) and compounds of the general formula (II) in a weight ratio of from 100:0 to 50:50.

4. A method as claimed in any one of claims 1 to 3, wherein the component (B) is an organic or inorganic salt of an alkali metal or ammonium.

5. A method as claimed in any one of claims 1 to 4, wherein the component (B) is an inorganic salt.

6. A method as claimed in claim 5, wherein the inorganic salt is selected from the group consisting of sodium chloride, potassium chloride, lithium chloride, sodium bromide, ammonium chloride, sodium nitrate, sodium sulfate, sodium carbonate, sodium monohydrogenphosphate, sodium dihydrogenphosphate and sodium thiocyanate.

7. A method as claimed in any one of claims 1 to 6, wherein the non-ionic surface active agent of the component (D) is selected from the group consisting of (a) a polyoxyethylene (from 80 to 200) alkyl or alkenyl ether, where the number in the parentheses represents an average of moles of addition-polymerized ethylene oxide, and the alkyl group or the alkenyl group has, in an average, from 8 to 20 carbon atoms,

(b) a polyoxyethylene (from 80 to 200) mono- or di-higher saturated or unsaturated fatty acid ester, where the number in the parentheses has the same meaning as defined above, and the fatty acid has, in an average, from 8 to 20 carbon atoms,

(c) a polyoxyethylene (from 60 to 150) castor oil or hydrogenated castor oil, where the number in the parentheses has the same meaning as defined above, and

(d) a polyoxyethylene (from 50 to 100) mono- or di-higher saturated or unsaturated fatty acid sorbitan ester, where the number in the parentheses has the same meaning as defined above and the fatty acid has, in an average, from 8 to 20 carbon atoms.

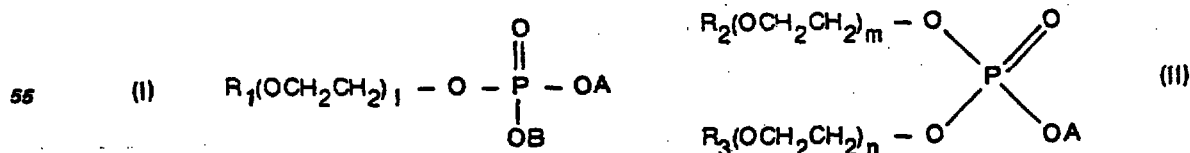
8. A method as claimed in any one of claims 1 to 6, wherein the cationic surface active agent represented by the general formula (III) as the component (D) is selected from the group consisting of myristyl dipolyoxyethylene methylammonium chloride or bromide ($p + q = 6$ to 20), a myristyl dipolyoxyethylene ethylammonium chloride or bromide ($p + q = 6$ to 20), a palmityl dipolyoxyethylene methylammonium chloride or bromide ($p + q = 6$ to 20), a palmityl dipolyoxyethylene ethylammonium chloride or bromide ($p + q = 6$ to 20) and a stearyl dipolyoxyethylene methylammonium chloride or bromide ($p + q = 6$ to 20).

9. A method as claimed in any one of claims 1 to 6, wherein the cationic surface active agent represented by the general formula (IV) as the component (D) is selected from the group consisting of dilauryl dimethylammonium chloride or bromide, dimyristyl dimethylammonium chloride or bromide, dipalmityl dimethylammonium chloride or bromide and distearyl dimethylammonium chloride or bromide.

Revendications pour les Etats contractants: BE CH DE FR GB IT LI LU NL SE

1. Composition crémeuse de nettoyage comprenant les quatre composants suivants:

(A) de 10 à 60% en poids d'un ou plusieurs surfactifs constitués d'esters phosphoriques répondant aux formules générales (I) ou (II):



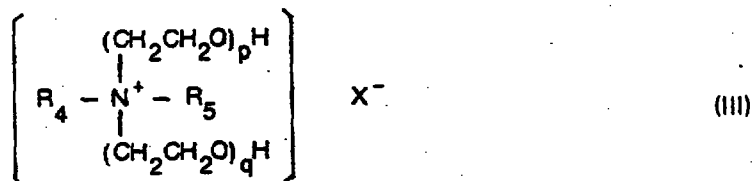
dans lesquelles R_1 , R_2 et R_3 représentent chacun un reste d'hydrocarbure saturé ou insaturé contenant de 8 à 18 atomes de carbone, A et B représentent chacun un atome d'hydrogène, un métal alcalin, l'ammonium ou une alcanolamine de 2 à 3 atomes de carbone et l, m et n représentent chacun 0 ou un nombre entier de 1 à 10.

(B) de 0,5 à 15% en poids d'un sel organique ou minéral,

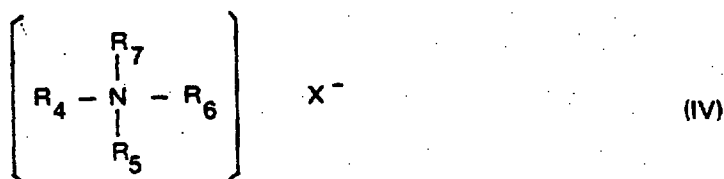
(C) de 0,5 à 15% en poids d'un polyéthylène-glycol ayant un poids moléculaire de 4 000 à 10 000, et



(D) un agent tensio-actif choisi dans le groupe comprenant (1) et 0,1 à 15% en poids d'un agent tensio-actif non ionique constitué par un produit d'addition contenant ou moins 50 moles d'oxyde d'éthylène d'addition polymérisé, (2) de 0,05 à 10% en poids d'un agent tensio-actif cationique répondant à la formule générale (III):



dans laquelle R_4 représente un reste d'hydrocarbure saturé ou insaturé de 8 à 18 atomes de carbone, R_5 représente un radical méthyle ou un radical éthyle, X représente un atome d'halogène et p et q représentent chacun un nombre entier de 1 à 15, et (3) de 0,05 à 10% en poids d'un agent tensio-actif cationique répondant à la formule générale (IV):



dans laquelle R_6 représente un radical méthyle ou un radical éthyle, R_7 représente un reste d'hydrocarbure saturé ou insaturé de 8 à 18 atomes de carbone, et R_4 , R_5 et X ont les mêmes significations que ci-dessus.

2. Composition crémeuse de nettoyage selon la revendication 1, dans laquelle le composant (A) est un surfactif constitué par un ester phosphorique choisi dans le groupe comprenant les composés de formules générales (I) et (II) dans lesquelles l, m et n sont chacun égal à zéro.

3. Composition crémeuse de nettoyage selon la revendication 1 ou 2, dans laquelle le compostant (A) est un mélange de surfactifs constitués d'esters phosphoriques et formés de composés de formule générale (I) et de composés de formule générale (II) dans un rapport pondéral de 100:0 à 50:50.

4. Composition crémeuse de nettoyage selon l'une quelconque des revendications 1 à 3, dans laquelle le composant (B) est un sel organique ou minéral d'un métal alcalin ou d'ammonium.

5. Composition crémeuse de nettoyage selon l'une quelconque des revendications 1 à 4, dans laquelle le composant (B) est un sel minéral.

6. Composition crémeuse de nettoyage selon la revendication 5, dans laquelle le sel minéral est choisi dans le groupe comprenant le chlorure de sodium, le chlorure de potassium, le chlorure de lithium, le bromure de sodium, le chlorure d'ammonium, le nitrate de sodium, le sulfate de sodium, le carbonate de sodium, le phosphate disodique, le phosphate monosodique et le thiocyanate de sodium.

7. Composition crémeuse de nettoyage selon l'une quelconque des revendications 1 à 6, dans laquelle l'agent tensio-actif non ionique constituant le composant (D) est choisi dans le groupe comprenant (a) un éther alkylé ou alcénylé de polyoxyéthylène (de 80 à 200), le nombre entre parenthèses représentant le nombre de moles moyen d'oxyde d'éthylène d'addition polymérisé et le radical alkyle ou le radical alcényle contenant en moyenne de 8 à 20 atomes de carbone,

(b) un ester de polyoxyéthylène (de 80 à 200) de mono- ou diacide gras supérieur saturé ou insaturé, le nombre entre parenthèses ayant la même signification que ci-dessus et l'acide gras contenant en moyenne de 8 à 20 atomes de carbone,

(c) une huile de ricin ou une huile de ricin hydrogénée de polyoxyéthylène (de 60 à 150), le nombre entre parenthèses ayant la même signification que ci-dessus, et

(d) un ester de sorbitanne polyoxyéthylène (de 50 à 100) d'un mono- ou diacide gras saturé ou insaturé supérieur, le nombre entre parenthèses ayant la même signification que ci-dessus et l'acide gras contenant en moyenne de 8 à 20 atomes de carbone.

8. Composition crémeuse de nettoyage selon l'une quelconque des revendications 1 à 6, dans laquelle l'agent tensio-actif cationique répondant à la formule générale (III) constituant le composant (D) est choisi dans le groupe comprenant le chlorure ou bromure de myristyl dipolyoxyéthylène méthylammonium ($p + q = 6$ à 20), le chlorure ou bromure de myristyl dipolyoxyéthylène éthylammonium ($p + q = 6$ à 20) le chlorure ou bromure de palmityl dipolyoxyéthylène méthylammonium ($p + q = 6$ à 20) le chlorure ou bromure de palmityl dipolyoxyéthylène éthylammonium ($p + q = 6$ à 20) et le chlorure ou bromure de stéaryl dipolyoxyéthylène méthylammonium ($p + q = 6$ à 20).

9. Composition crémeuse de nettoyage selon l'une quelconque des revendications 1 à 6, dans laquelle l'agent tensio-actif cationique répondant à la formule générale (IV) constituant le composant (D) est choisi dans le groupe comprenant le chlorure ou bromure de dilauryl diméthylammonium, le

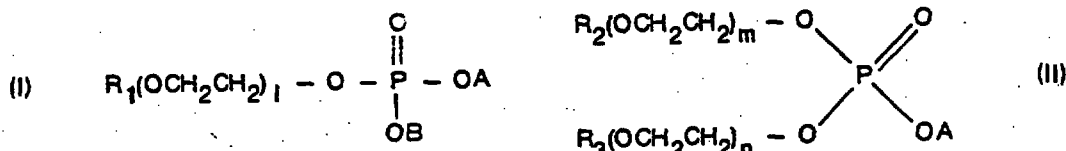


chlorure ou bromure de dimyristyl diméthylammonium, le chlorure ou bromure de dipalmityl diméthylammonium et le chlorure ou bromure de distéaryl diméthylammonium.

Revendications pour l'Etat contractant: AT

1. Procédé de production d'une composition crémeuse de nettoyage, qui consiste à mélanger les quatre composants suivants:

(A) de 10 à 60% en poids d'un ou plusieurs surfactifs constitués d'esters phosphoriques répondant aux formules générales (I) ou (II):

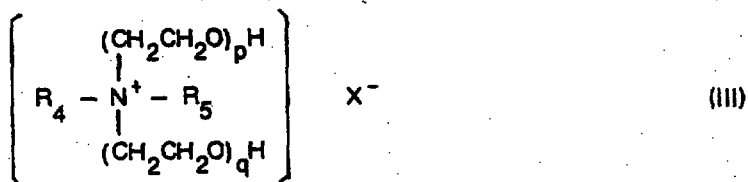


dans lesquelles R_1 , R_2 et R_3 représentent chacun un reste d'hydrocarbure saturé ou insaturé de 8 à 18 atomes de carbone, A et B représentent chacun un atome d'hydrogène, un métal alcalin, l'ammonium ou une alcanolamine de 2 à 3 atomes de carbone et l, m et n représentent chacun 0 ou un nombre entier de 1 à 10,

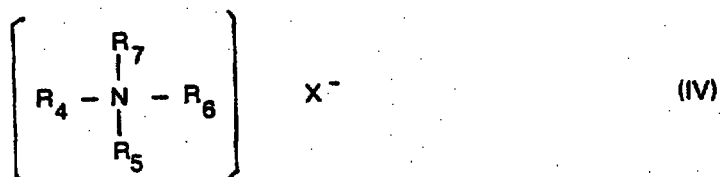
(B) de 0,5 à 15% en poids d'un sel organique ou minéral,

(C) de 0,5 à 15% en poids d'un polyéthylène-glycol ayant un poids moléculaire de 4 000 à 10 000, et

(D) un agent tensio-actif choisi dans le groupe comprenant (1) et 0,1 à 15% en poids d'un agent tensio-actif non ionique du type à addition d'oxyde d'éthylène (au moins 50 moles), (2) de 0,05 à 10% en poids d'un agent tensio-actif cationique répondant à la formule générale (III):



dans laquelle R_4 représente un reste d'hydrocarbure saturé ou insaturé de 8 à 18 atomes de carbone, R_5 représente un radical méthyle ou un radical éthyle, X représente un atome d'halogène et p et q représentent chacun un nombre entier de 1 à 15, et (3) de 0,05 à 10% en poids d'un agent tensio-actif cationique répondant à la formule générale (IV):



dans laquelle R_6 représente un radical méthyle ou un radical éthyle, R_7 représente un reste d'hydrocarbure saturé ou insaturé de 8 à 18 atomes de carbone, et R_4 , R_5 et X ont les mêmes significations que ci-dessus.

2. Procédé selon la revendication 1, dans lequel le composant (A) est un surfactif constitué par un ester phosphorique choisi dans le groupe comprenant les composés de formules générales (I) et (II) dans lesquelles l, m et n sont chacun égal à zéro.

3. Procédé selon la revendication 1 ou 2, dans lequel le composant (A) est un mélange de surfactifs constitués d'esters phosphoriques et formés de composés de formule générale (I) et de composés de formule générale (II) dans un rapport pondéral de 100:0 à 50:50.

4. Procédé selon l'une quelconque des revendications 1 à 3, dans lequel le composant (B) est un sel organique ou minéral d'un métal alcalin ou d'ammonium.

5. Procédé selon l'une quelconque des revendications 1 à 4, dans lequel le composant (B) est un sel minéral.

6. Procédé selon la revendication 5, dans lequel le sel minéral est choisi dans le groupe comprenant le chlorure de sodium, le chlorure de potassium, le chlorure de lithium, le bromure de sodium, le chlorure d'ammonium, le nitrate de sodium, le sulfate de sodium, le carbonate de sodium, le



phosphate disodique, le phosphate monosodique et le thiocyanate de sodium.

7. Procédé selon l'une quelconque des revendications 1 à 6, dans lequel l'agent tensio-actif non ionique constituant le composant (D) est choisi dans le groupe comprenant (a) un éther alkylique ou alcénylique de polyoxyéthylène (de 80 à 200), le nombre entre parenthèses représentant la nombre moyen de moles d'oxyde d'éthylène d'addition polymérisé et le radical alkyle ou alcényle contenant en moyenne 8 à 20 atomes de carbone,

(b) un ester de polyoxyéthylène (de 8 à 200) d'un mono- ou diacide gras saturé ou insaturé, le nombre entre parenthèses ayant la même signification que ci-dessus et l'acide gras contenant en moyenne de 8 à 20 atomes de carbone,

(c) une huile de ricin ou huile de ricin hydrogénée de polyoxyéthylène (de 60 à 150), le nombre entre parenthèses ayant la même signification que ci-dessus, et

(d) un ester de polyoxyéthylène (de 50 à 100) sorbitanne d'un mono- ou diacide gras saturé ou insaturé supérieur, le nombre entre parenthèses ayant la même signification que ci-dessus et l'acide gras contenant en moyenne 8 à 20 atomes de carbone.

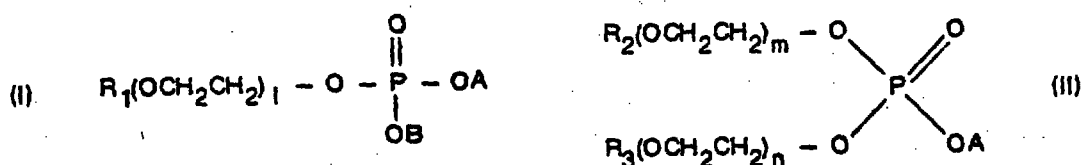
8. Procédé selon l'une quelconque des revendications 1 à 6, dans lequel l'agent tensio-actif cationique répondant à la formule générale (III) constituant le composant (D) est choisi dans le groupe comprenant le chlorure ou bromure de myristyl dipolyoxyéthylène méthylammonium ($p + q = 6$ à 20), le chlorure ou bromure de myristyl dipolyoxyéthylène éthylammonium ($p + q = 6$ à 20), le chlorure ou bromure de palmityl dipolyoxyéthylène méthylammonium ($p + q = 6$ à 20), le chlorure ou bromure de palmityl dipolyoxyéthylène éthylammonium ($p + q = 6$ à 20) et le bromure ou chlorure de stéaryl dipolyoxyéthylène méthylammonium ($p + q = 6$ à 20).

9. Procédé selon l'une quelconque des revendications 1 à 6, dans lequel l'agent tensio-actif cationique de formule générale (IV) constituant le composant (D) est choisi dans le groupe comprenant le chlorure de dilauryl diméthylammonium, le chlorure ou bromure de dimyristyl diméthylammonium, le chlorure ou bromure de dipalmityl diméthylammonium et le chlorure ou bromure de distéaryl diméthylammonium.

Patentansprüche für Vertragsstaaten: BE CH DE FR GB IF LI NL

1. Cremeförmiges Reinigungsmittel, umfassend die folgenden vier Komponenten:

(A) von 10 bis 60 Gew.% eines oder mehrerer Phosphorsäureester-Surfaktantien gemäß den allgemeinen Formeln (I) oder (II)

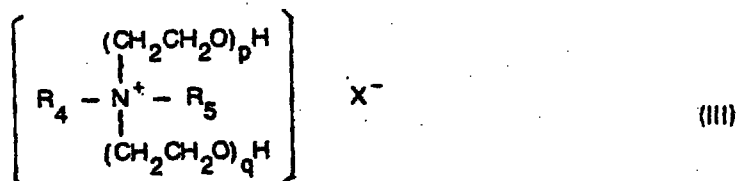


wobei jeder der Reste R_1 , R_2 und R_3 eine gesättigte oder ungesättigte Kohlenwasserstoffgruppe mit 8 bis 18 Kohlenstoffatomen bedeutet, jeder der Reste A und B für ein Wasserstoffatom, ein Alkalimetall, Ammonium oder ein Alkanolamin mit 2 oder 3 Kohlenstoffatomen steht und l, m und n jeweils für 0 oder eine ganze Zahl von 1 bis 10 stehen;

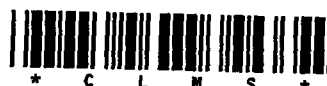
(B) von 0,5 bis 15 Gew.% eines organischen oder anorganischen Salzes;

(C) von 0,5 bis 15 Gew.% Polyäthylenglykol mit einem Molekulargewicht von 4000 bis 10 000; und

(D) ein oberflächenaktives Mittel, ausgewählt unter (1) 0,1 bis 15 Gew.% eines nichtionogenen Tensids vom Äthylenoxid(mindestens 50 Mol)-Additions-Typs, (2) 0,05 bis 10 Gew.% eines Kationtensids gemäß der allgemeinen Formel (III)



wobei R_4 eine gesättigte oder ungesättigte Kohlenwasserstoffgruppe mit 8 bis 18 Kohlenstoffatomen bedeutet, R_5 eine Methylgruppe oder eine Äthylgruppe bedeutet, X ein Halogenatom darstellt und p und q jeweils für eine ganze Zahl von 1 bis 15 stehen, und (3) 0,05 bis 10 Gew.% eines Kationtensids gemäß der allgemeinen Formel (IV)





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Patentansprüche für den Vertragsstaat: AT

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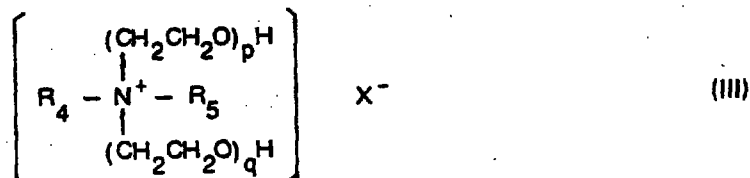
wobei jeder der Reste R_1 , R_2 und R_3 eine gesättigte oder ungesättigte Kohlenwasserstoffgruppe mit 8 bis 18 Kohlenstoffatomen bedeutet, jeder der Reste A und B für ein Wasserstoffatom, ein Alkalimetall, Ammonium oder ein Alkanolamin mit 2 oder 3 Kohlenstoffatomen steht und l, m und n jeweils für 0 oder eine ganze Zahl von 1 bis 10 stehen;

(B) von 0,5 bis 15 Gew.% eines organischen oder anorganischen Salzes;

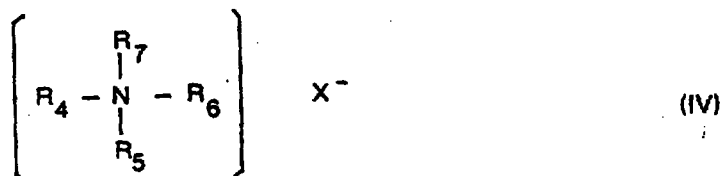
(C) von 0,5 bis 15 Gew.% Polyäthylenglykol mit einem Molekulargewicht von 4000 bis 10 000; und

(D) ein oberflächenaktives Mittel, ausgewählt unter (1) 0,1 bis 15 Gew.% eines nichtionogenen Tensids vom Äthylenoxid(mindestens 50 Mol)-Additions-Typ, (2) 0,05 bis 10 Gew.% eines Kation-

10 tensids gemäß der allgemeinen Formel (III)



20 wobei R_4 eine gesättigte oder ungesättigte Kohlenwasserstoffgruppe mit 8 bis 18 Kohlenstoffatomen bedeutet, R_5 eine Methylgruppe oder eine Äthylgruppe bedeutet, X ein Halogenatom darstellt und p und q jeweils für eine ganze Zahl von 1 bis 15 stehen, und (3) 0,05 bis 10 Gew.% eines Kationtensids gemäß der allgemeinen Formel (IV)



wobei R_6 eine Methylgruppe oder eine Äthylgruppe bedeutet, R_7 eine gesättigte oder ungesättigte Kohlenwasserstoffgruppe mit 8 bis 18 Kohlenstoffatomen bedeutet und R_4 , R_5 und X die oben gegebenen Bedeutungen haben.

35 2. Verfahren nach Anspruch 1, dadurch gekennzeichnet, daß die Komponente (A) ein Phosphorsäureester-Surfaktans ist, ausgewählt unter den Verbindungen der allgemeinen Formeln (I) und (II), wobei l, m und n jeweils für 0 stehen.

3. Verfahren nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß die Komponente (A) ein Gemisch von Phosphorsäureester-Surfaktantien ist, zusammengesetzt aus Verbindungen der allgemeinen Formel (I) und Verbindungen der allgemeinen Formel (II) in einem Gewichtsverhältnis von 100:0 bis 50:50.

4. Verfahren nach einem der Ansprüche 1 bis 3, dadurch gekennzeichnet, daß die Komponente (B) ein organisches oder anorganisches Salz eines Alkalimetalls oder von Ammonium ist.

5. Verfahren nach einem der Ansprüche 1 bis 4, dadurch gekennzeichnet, daß die Komponente (B) ein anorganisches Salz ist.

6. Verfahren nach Anspruch 5, dadurch gekennzeichnet, daß das anorganische Salz ausgewählt ist unter Natriumchlorid, Kaliumchlorid, Lithiumchlorid, Natriumbromid, Ammoniumchlorid, Natriumnitrat, Natriumsulfat, Natriumcarbonat, Natriummonohydrogenphosphat, Natriumdihydrogenphosphat und Natriumthiocyanat.

50 7. Verfahren nach einem der Ansprüche 1 bis 6, dadurch gekennzeichnet, daß das nichtionogene Tensid der Komponente (D) ausgewählt ist unter (a) einem Polyoxyäthylen(von 80 bis 200)-alkyl- oder -alkenyläther, wobei die Zahlenangabe in der Klammer einen Durchschnitt der Mole des additionspolymerisierten Äthylenoxids bedeutet und wobei die Alkylgruppe oder die Alkenylgruppe im Durchschnitt 8 bis 20 Kohlenstoffatome aufweist,

55 (b) einem Polyoxyäthylen(von 80 bis 200)-mono- oder -di-höherer gesättigter oder ungesättigter-fettsäureester, wobei die Zahlenangabe in der Klammer die gleiche Bedeutung hat wie oben und die Fettsäure im Durchschnitt 8 bis 20 Kohlenstoffatome aufweist,

(c) einem Polyoxyäthylen(von 60 bis 100)-rizinusöl oder -hydriertes rizinusöl, wobei die Zahlenangabe in der Klammer die gleiche Bedeutung hat wie oben, und

60 (d) einem Polyoxyäthylen(von 50 bis 100)-mono- oder -di-höherer gesättigter oder ungesättigter-fettsäure-sorbitanester, wobei die Zahlenangabe in der Klammer die gleiche Bedeutung hat wie oben und die Fettsäure im Durchschnitt 8 bis 20 Kohlenstoffatome aufweist.

8. Verfahren nach einem der Ansprüche 1 bis 6, dadurch gekennzeichnet, daß das Kationtensid gemäß der allgemeinen Formel (III) als die Komponente (D) ausgewählt ist unter Myristyldipolyoxyäthylen-methylammoniumchlorid oder -bromid ($p + q = 6$ bis 20), Myristyldipolyoxyäthylen-äthyl-



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ammoniumchlorid oder -bromid ($p + q = 6$ bis 20), Palmityldipolyoxyäthylen-methylammoniumchlorid oder -bromid ($p + q = 6$ bis 20), Palmityldipolyoxyäthylen-äthylammoniumchlorid oder -bromid ($p + q = 6$ bis 20) und Stearyldipolyoxyäthylen-methylammoniumchlorid oder -bromid ($p + q = 6$ bis 20).

9. Verfahren nach einem der Ansprüche 1 bis 6, dadurch gekennzeichnet, daß das Kationensid gemäß der allgemeinen Formel (IV) als die Komponente (D) ausgewählt ist unter Dilauryldimethylammoniumchlorid oder -bromid, Dimyristyldimethylammoniumchlorid oder -bromid, Dipalmityldimethylammoniumchlorid oder -bromid und Distearyldimethylammoniumchlorid oder -bromid.

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