

**Fabric Care Composition Comprising Polymer Encapsulated Fabric or Skin
Beneficiating Ingredient**

TECHNICAL FIELD

[0001] The present invention relates to a fabric care composition, which comprises an encapsulated fabric or skin beneficiating ingredient. More particularly, this invention relates to fabric softening compositions, such as fabric softeners, fabric conditioners, fabric refreshers and detergents in a form of liquid, powder, gel or a composition applied onto a fabric substrate such as fabric softener sheets and/or wipes.

[0002] This invention provides enhanced delivery of the fabric or skin beneficiating ingredient to the fabric.

BACKGROUND OF THE INVENTION

[0003] The present invention is based on the concept of fragrance, perfume, emollient or other fabric or skin beneficiating ingredient being released "on demand", *e.g.*, release at a time of fabric/clothes use and/or wear.

[0004] The concept of controlled active release is known in the art, and various methods for achieving this have been developed. One aspect of the controlled release of perfume, for example, is providing slow release of perfume over an extended period of time. This is generally achieved by blending perfume or other fabric or skin beneficiating ingredient with a substance that will, in essence, "trap" the perfume and subsequently release small amounts of perfume over time.

[0005] An example of microencapsulation technology is described in U.S. Patent No. 4,464,271 to Munteanu et al. issued August 7, 1984 which describes softener compositions containing a non-confined fragrance oil and a fragrance oil entrapped in solid particles.

[0006] From the above, it is clear that the preparation of microcapsules is a known art; preparation methods are, for instance, described in detail in a handbook edited by Simon Benita ("Microencapsulation; Methods and Industrial Applications, Marcel Dekker, Inc. N.Y., 1996), the contents of which are incorporated herein by reference for the preparation techniques described therein.

[0007] Further reference is made to a number of patent publications, which describe the use of encapsulated fragrance in household applications, and more specifically in detergent

compositions and in fabric softener products. For example, U.S. Patent 4,145,184 to Brain et al. describes detergent compositions which contain perfumes in the form of friable microcapsules. Preferred materials for the microcapsule shell walls are the aminoplast polymers comprising the reaction product of urea and aldehyde.

[0008] In Colgate U.S. Pat. No. 6,620,777 there is described a fabric softening composition comprising fabric or skin beneficiating ingredient(s) within friable microcapsules of aminoplast polymeric shell.

[0009] Notwithstanding these and other disclosures there is an ongoing need for the improved delivery of fragrance materials for various rinse-off products that provide improved performance.

SUMMARY OF THE INVENTION

[0010] The present invention provides a stable fabric softening composition comprising:

- (a) from 0.01% to 50% by weight of a cationic or non-ionic softening compound;
- (b) at least 0.001%, by weight, of a water dispersible cross-linked cationic polymer derived from the polymerization of from 5 to 100 mole percent of a cationic vinyl addition monomer, from 0 to 95 mole percent of acrylamide, and from 5 to 500 ppm of a difunctional vinyl addition monomer cross-linking agent; and

- (c) an effective amount of at least one fabric or skin beneficiating ingredient contained within a microcapsule, the capsule shell comprising urea-formaldehyde or melamine-formaldehyde polymer and a second polymer comprising a polymer or copolymer of one or more anhydrides.

[0011] The fabric softening composition is preferably an aqueous composition.

[0012] In a particular embodiment of the invention the softening composition further includes a chelating compound capable of chelating metal ions and selected from the group consisting of amino carboxylic acid compounds, organo aminophosphonic acid compounds and mixtures thereof.

[0013] For purposes of the present invention a "fabric or skin beneficiating ingredient" is any substance which improves or modifies the chemical or physical characteristics of the fabric being treated therewith. Examples of such fabric or skin beneficiating ingredients include perfumes or fragrance oils, elasticity improving agents, vitamins, skin conditioners, antibacterial agents, antistatic agents, enzymes, crease proofing agents, UV absorbers, heat proofing agents and brighteners. The most preferred fabric or skin beneficiating ingredient is

perfume. Perfume is an especially suitable encapsulated fabric or skin beneficiating ingredient for use herein since its volatility generally creates special problems when it is used in conventional (i.e. un-encapsulated) fabric treatment compositions, such as, fabric softeners.

[0014] The terms "fragrance oil" or "perfume" as used herein refer to any odoriferous material which may be selected according to the desires of the formulator from natural or synthetically produced fragrant substances to impart a desired fragrance. In general, such perfume materials or fragrance oils are characterized by a vapor pressure above atmospheric pressure at ambient temperatures and are ordinarily liquid at ambient temperatures, but may also be solids such as the various camphoraceous perfumes known in the art. A wide variety of chemicals are known for perfumery uses, including blends of various organic compounds such as aldehydes, ketones, esters, and the like. More commonly, naturally-occurring plant and animal oils and exudates comprising complex mixtures of various chemical components are known for use as perfumes, and such materials can be used herein. The perfumes herein can be relatively simple in their composition, or can comprise highly sophisticated, complex mixtures of natural and synthetic chemical components, all chosen to provide a desired fragrance.

[0015] The fabric softening compositions described herein may be in the form of a liquid, powder or gel as well as a fabric softener sheet. The liquid form of the composition is generally used in domestic automatic washing machine use.

[0016] In a particular embodiment of the invention, the micocapsule is an aminoplast capsule. Also, the fabric softener composition contains from 0 to 5%, by weight, of a confined fragrance oil.

DETAILED DESCRIPTION OF THE INVENTION

[0017] The fabric softener compositions of the invention contain at least one fabric or skin beneficiating ingredient agent encapsulated in microcapsules which are used as a delivery vehicle for such ingredient in, for example, a domestic laundry operation.

[0018] The present compositions prolong the effect provided by encapsulated fabric or skin beneficiating ingredients on the surfaces treated with said compositions. For instance, a longer lasting performance is noted with respect to perfume on dry clothes treated with a fabric softener composition of the invention.

[0019] Moreover, compositions which comprise the cationic cross-linked polymer provide an excellent delivery vehicle for microcapsules on the substrates of treated fabrics. In

addition the cross-linked cationic polymer provides thickening and stability benefits of compositions comprising the fragrance microcapsules.

[0020] The microcapsules are made of a hard polymeric material that is friable and which ruptures upon gentle rubbing. In this way, an intense burst of fabric or skin benefiting ingredient can, for instance, be detected on fabric rinsed with a softener composition of the invention during the ordinary manipulation of the fabric. The perfume, for example, is released at the time the user wears the clothes. Dry towels washed with a fabric softener of the invention have a pleasing fragrance and manifest a particularly intense "fragrance burst" when used.

[0021] The compositions of the invention protect the friable microcapsules during product storage prior to use and during use and also maximize the deposition of microcapsules onto fabric surface, so that a good fraction of capsules in the composition deposit on the fabric.

Microcapsules

[0022] The microcapsules which are useful in the compositions of the present invention are disclosed in WO 02/074430 A1 which is incorporated herein by reference. In these microcapsules, fragrance materials are encapsulated within an aminoplast capsule, the capsule shell comprising urea-formaldehyde or melamine-formaldehyde polymer and a second polymer comprising a polymer or copolymer of one or more anhydrides (such as maleic anhydride or ethylene/maleic anhydride copolymer).

[0023] Suitable microcapsules which contain a fragrance oil and which are useful in the composition of the present invention can be in the form of an "encapsulated fragrance slurry", comprising:

- a. an encapsulated fragrance;
- b. optionally a non-confined (free) fragrance;
- c. an encapsulating shell material; and
- d. water

[0024] The fabric softener compositions of the invention can comprise any effective amount of the friable microcapsules. By "effective amount" is meant an amount of microcapsules sufficient that the number becoming attached to the fabric during the laundering operation is enough to impart a noticeable odor to the laundered fabric when the fabric is rubbed or scratched.

[0025] Perfume or skin benefiting ingredient in the microcapsules may be mixed with a polymer or non-polymeric carrier material or surfactant or solvent or mixtures thereof.

[0026] Such polymeric materials broadly include polyethylenes, polyamides, polystyrenes, polyisoprenes, polycarbonates, polyesters, polyacrylates, vinyl polymers and polyurethanes. Non-polymeric carriers may include fatty alcohols, esters, fatty amidoamine, wax, fatty quaternary ammonium compound etc. Perfume or skin beneficiating ingredient may also be mixed with clay, hydroxypropyl cellulose, silica, xanthan gum, ethyl cellulose, microcrystalline cellulose, carrageenan, propylene glycol alginate, sodium alginate, methyl cellulose, sodium carboxymethyl cellulose; and Veegum (manufactured by R. T. Vanderbilt Company), a natural inorganic complex of colloidal magnesium aluminum silicate, ethylene glycol, propylene glycol, glycerol, pyrrolidine, acetamide, ethylene diamine, piperzine, amino acids, ureas and hydroxyethyl modified ureas, diisodecyl adipate, phthalate esters and the like.

Cross-Linked Cationic Polymer

[0027] The cationic cross-linked polymer as described herein is derivable from a water soluble cationic ethylenically unsaturated monomer or blend of monomers, which is cross-linked by a cross-linking agent comprising polyethylenic functions. Suitable cross-linked cationic polymers are known in the art, and for instance described in US 4,806,345. This patent describes personal care compositions which have as a thickening agent a cross-linked cationic vinyl addition polymer derived from the polymerization of a cationic vinyl addition monomer, acrylamide, and 50-500 ppm of a difunctional vinyl addition monomer for cross-linking purposes.

[0028] Also suitable but less preferred polymers are described in WO 90/12862 in the name of British Petroleum. This publication discloses aqueous based fabric conditioning formulations comprising a water dispersible cationic softener and as a thickener a cross-linked cationic polymer that is derivable from a water soluble cationic ethylenically unsaturated monomer or blend of monomers, which is cross-linked by 5 to 45 ppm of a cross-linking agent comprising polyethylenic functions.

[0029] Further, in Research Disclosure, page 136, no. 429116 of January 2000, SNF Floerger describes particular cationic polymeric thickeners that are useful in the softening compositions of the invention. These described thickeners are branched and/or cross-linked cationic polymers formed from monoethylenically unsaturated monomers being either water soluble cationic monomers or blends of cationic monomers that may consist of cationic monomers alone or may comprise a mixture from 50-100% cationic monomer or blend thereof and from 0-50% of non-ionic monomers in the presence of a cross-linking agent in an amount of 60 to 3000 ppm and of chain transfer agent in an amount of between 10 and 2000

ppm. The cationic monomers are selected from the group of dimethylaminopropyl methacrylamide, dimethylaminopropylacrylamide, diallylamine, methyldiallylamine, dialkylaminoalkylacrylate and methacrylate, dialkylaminoalkyl acrylamide or methacrylamide, derivatives of the previously mentioned monomers or quaternary or acid salts thereof. Suitable non-ionic monomers are selected from the group consisting of acrylamide, methacrylamide, N-alkyl acrylamide, N-vinyl pyrrolidone, vinylacetate, vinyl alcohol, acrylate esters, allyl alcohol, and derivatives thereof. The cross-linking agents are methylene bisacrylamide and all diethylenically unsaturated compounds.

[0030] Cross-linked cationic vinyl polymer may be used, derived from the polymerisation of from 5 to 100 mole percent of a cationic vinyl addition monomer, and especially a quaternary ammonium salt of dimethylaminoethyl methacrylate, from 0 to 90 mole percent of acrylamide, and from 70 to 250 ppm, preferably between 75 and 200 ppm and most preferably between 80 and 150 ppm, of a difunctional vinyl addition monomer cross linking agent.

[0031] Generally, such polymers are prepared as water-in-oil emulsions, wherein the cross-linked polymers are dispersed in mineral oil, which may contain surfactants. During finished product making, when in contact with the water phase, the emulsion inverts, allowing the water-soluble polymer to swell.

[0032] Cationic polymers for use in the present invention particularly include cross-linked copolymers of a quaternary ammonium acrylate or methacrylate in combination with an acrylamide comonomer.

[0033] Nonionic polymers are also useful for the present invention. Examples of such nonionic polymers which can be used include poly(ethylene oxide), non-ionic polyacrylamide, nonionic cellulose ether and modified non-ionic starch polymers.

Cationic Softening Compound

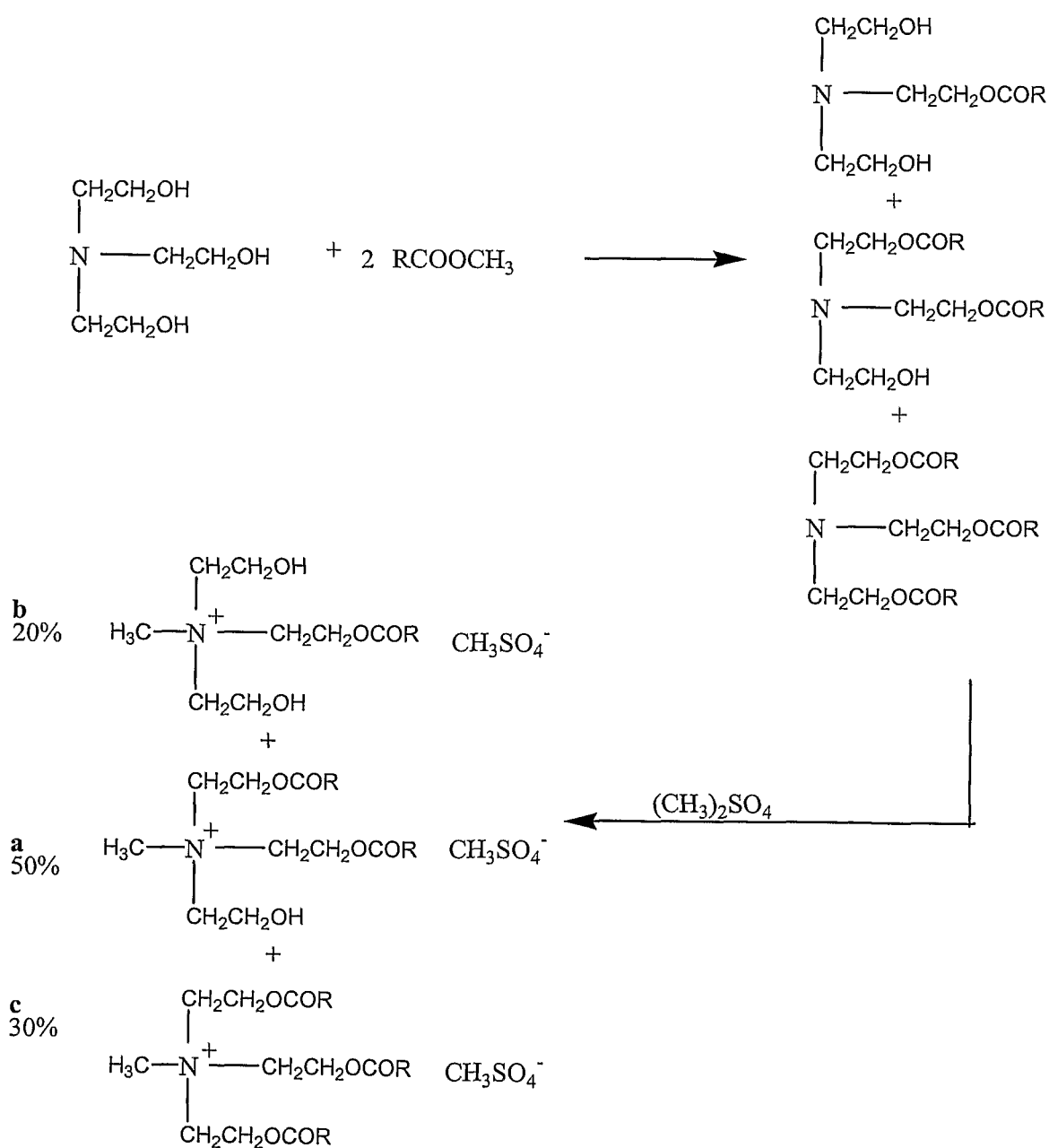
[0034] In the compositions of the present invention various types of fabric softeners may be useful which are in the category of cationic, nonionic, and anionic surfactants. In addition, other conventional ingredients for fabric softening and conditioning compositions, such as clays, silicones, fatty alcohols, fatty esters and the like may optionally be added.

[0035] The cationic softeners include esterquats, imidazolinium quats, difatty dialkyl quaternary ammonium compounds, alkyl imidazolinium compounds, fatty ester and fatty amide quaternary ammonium compounds, difatty diamido ammonium methyl sulfate, difatty amidoamine and ditallow dimethyl ammonium chloride. Suitable cationic softeners are

described in US 5,939,377, US 6,020,304, US 4,830,771, US 5,501,806, and US 4,767,547, all of which disclosures are incorporated herein by reference.

[0036] A particular softener for use in the present invention is produced by reacting two moles of fatty acid methyl ester with one mole of triethanolamine followed by quaternization with dimethyl sulfate (further details on this preparation method are disclosed in US 3,915,867). The reaction products are distributed as follows: (a) 50% diesterquat material; (b) 20% monoesterquat; and (c) 30% triesterquat.

Figure 1. Synthesis of Triethanolamine Esterquat



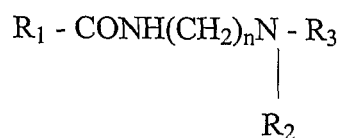
In the present specification, the product mixture of to the above reaction is referred to as “esterquat”. It is commercially available from, e.g., Kao Corp. as for example, Tetranyl AT1-75™.

[0037] Depending on the esterification process conditions of the above reaction shown in the Figure 1, the distribution of the three species (mono, di and tri) may vary. The esterquat compounds described herein are prepared by quaternizing the product of the condensation reaction between a fatty acid fraction containing at least one saturated or unsaturated linear or branched fatty acid, or derivative, and at least one functionalized tertiary amine, wherein the molar ratio of the fatty acid fraction to tertiary amine is from about 1.7 : 1. The method of manufacture for such a esterquat surfactant is described in US Patent 5,637,743 (Stepan), the disclosure of which is incorporated herein by reference.

[0038] The aforementioned molar ratio will determine the equilibrium between the mono, di and tri-esterquat compounds in the products. For example, using a molar ratio of about 1.7 results in a normalized distribution of about 34% mono-esterquat, about 56% of di-esterquat and about 10% of tri-esterquat which is a fatty ester quat compound in accordance with the invention. On the other hand, for example, using a molar ratio of about 1.96 results in a normalized distribution of about 21% mono-esterquat, 61% of di-esterquat and 18% of tri-esterquat.

Nonionic Softening Compound

[0039] In the compositions of the present invention various types of non-ionic softeners may be useful. An exemplary non-ionic softener is of the following structure (can be used as such or in the partially neutralized form as described in US Patent No. 5,501,806).



wherein $\text{R}_1 = \text{C}_{12}$ to C_{30} alkyl or alkenyl,

$\text{R}_2 = \text{R}_1\text{CONH}(\text{CH}_2)_m$,

$\text{R}_3 = (\text{CH}_2\text{CH}_2\text{O})_p\text{H}$, CH_3 or H ,

n = 1 to 5,
m = 1 to 5, and
p = 1 to 10.

In a more preferred softening compound of formula (I),
R₁ = C₁₆ to C₂₂ alkyl,
n = 1 to 3,
m = 1 to 3, and
p = 1.5 to 3.5.

[0040] In the above formulas, R₁ and R₂ are each, independently, long chain alkyl or alkenyl groups having from 12 to 30 carbon atoms, preferably from 16 to 22 carbon atoms, such as, for example, dodecyl, dodecenyl, octadecyl, octadecenyl. Typically, R₁ and R₂ will be derived from natural oils containing fatty acids or fatty acid mixtures, such as coconut oil, palm oil, tallow, rape oil and fish oil. chemically synthesized fatty acids are also usable. The saturated fatty acids or fatty acid mixtures, and especially hydrogenated tallow (H-tallow) acid (also referred to as hard tallow), may be used. Generally and preferably R₁ and R₂ are derived from the same fatty acid or fatty acid mixture.

[0041] R₃ represents (CH₂CH₂O)_pH, CH₃ or H, or mixtures thereof may also be present. When R₃ represents the preferred (CH₂CH₂O)_pH group, p is a positive number representing the average degree of ethoxylation, and is preferably from 1 to 10, especially 1.5 to 6, and most preferably from about 2 to 4, such as 2.5, n and m are each integers of from 1 to 5, preferably 2 to 4, especially 2. The compounds of formula (I) in which R₃ represents the preferred (CH₂CH₂O)_pH group are broadly referred to herein as ethoxylated amidoamines, and the term "hydroxyethyl" is also used to describe the (CH₂CH₂O)_pH group.

[0042] Another preferred non-ionic softener is a fatty amide compound, generally described as condensation products of monobasic fatty acids having at least 8 carbon atoms with dipropylene triamine and or diethylene triamine. These condensates are subsequently reacted with urea. The resulting product is optionally methylolated by adding formaldehyde. Typical compounds of this class are:

Bis/tetra stearyl carbamidoethyl urea

Bis/tetra tallowyl carbamidoethyl urea

The manufacture of such fatty amide compounds is described in U.S. Pat. No. 3,956,350 to Ciba-Geigy.

[0043] A process for the production of textile co-softener fatty amide compound comprises the steps of condensing with stirring and heating an aliphatic monobasic fatty acid of at least 8 carbon atoms or mixture of said acids, provided that the fatty acid be at least 40 mole % of saturated or monounsaturated straight-chain fatty acid with at least 12 carbon atoms, with diethylene triamine, dipropylene triamine or mixtures thereof in a molar ratio of fatty acid to triamine of about 2:1 to form a bis-amide, heating the resulting fatty acid amine condensation product with urea in a molar ratio of about 1:0.5 to 1:1 so that 0.5 to 1 mole of ammonia per mole of fatty acid amine condensation product is given off, and finally, treating the resulting urea condensation product with 1 to 5 moles of formaldehyde per mole of urea to methylolate the urea condensation product. Wherein at least 40 mole % of the fatty acid consists of saturated or monounsaturated straight-chain fatty acids with at least 14 carbon atoms. Wherein the fatty acid is a mixture of fatty acids having 12 to 24 carbon atoms. Wherein the fatty acid is condensed with diethylene triamine.

[0044] Another preferred non-ionic softeners are fatty esteramine compounds. Amine examples can be found in European Patent EP 443313 B1. These amines can be used as such or in the partially or fully neutralized forms with inorganic or organic acids.

Chelating Compound

[0045] A sequestering or chelating compound may be included in the fabric softening compositions of the invention at a concentration of from 0.001% to 5%, by weight. The useful sequestering compounds are capable of sequestering metal ions and are present at a level of at least 0.001%, by weight, of the softening composition, preferably from about 0.001% (10 ppm) to 0.5%, and more preferably from about 0.005% to 0.25%, by weight. The sequestering compounds which are acidic in nature may be present either in the acidic form or as a complex/salt with a suitable counter cation such as an alkali or alkaline earth metal ion, ammonium or substituted ammonium ion or any mixtures thereof.

[0046] The sequestering compounds are selected from among amino carboxylic acid compounds and organo aminophosphonic acid compounds, and mixtures of same. Suitable amino carboxylic acid compounds include: ethylenediamine tetraacetic acid (EDTA); N-hydroxyethylenediamine triacetic acid; nitrilotriacetic acid (NTA); and diethylenetriamine pentaacetic acid (DEPTA).

[0047] Suitable organo aminophosphonic acid compounds include: ethylenediamine tetrakis (methylenephosphonic acid); 1-hydroxyethane 1,1-diphosphonic acid (HEDP); and aminotri (methylenephosphonic acid).

EXAMPLE 1

The preparation of a softening composition of the invention is described below:

Materials

1. Variable Speed Mixer with 4 bladed paddles (diameter is 4in. ~10.2 cm). (Tekmar RW 20 DZM)
2. 4000 ml glass beaker (diameter is 6 in. ~15.2 cm)
3. 600 ml glass beaker.
4. Heated magnetic stirring plate with magnetic stirring bar.
5. Scale capable of reading 5-kg +/- 0.01 g.
6. Ester Quat (Tetranyl L-190, Quaternized Triethanolamine Diester-90%)
7. Amino trimethyl phosphonic acid (Dequest 2000)
8. Lactic/Lactate Buffer Solution 88 %
9. Encapsulated fragrance slurry (Polyamine Coated Capsules; about 25 % Fragrance)
10. Polyacrylate thickener/in mineral oil (56%)
11. Deionized Water
12. Ice

Method of Softener preparation

1. Heat the deionized water to 65°C, add to 4000 ml beaker.
2. Add Dequest 2000 to water while variable speed mixer is on 200 RPM.
3. Heat Ester Quat to 65 °C in 600-ml beaker on magnetic stirring plate with stirring.
4. With stirring from the variable speed mixer (400 RPM), SLOWLY (at about 130 g per 3-5 min., which is 25 to 40g/min.) add the Ester quat at 60°C to the deionized water.
5. Mix for 10 minutes.
6. Cool the resulting mixture in an ice/water bath with continuous mixing. After solution reaches 35 °C add Lactic/Lactate Buffer Solution.
8. Add Polyacrylate thick./in mineral oil (56 % active), slowly at (400-RPM)
9. Continue mixing for an additional 10 minutes (at 300 RPM) to form the softener base composition.
10. Post add the Encapsulated fragrance slurry blend and mix for 30 minutes.

Fabric softener formulationsTABLE 1

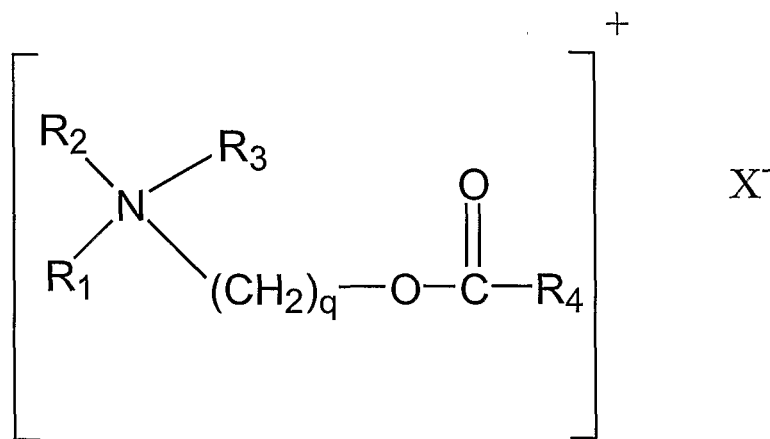
Ingredients	Sample 1 (wt%)	Sample 2 (wt%)
Di-tallow ester Quaternary ammonium methylsulfate (L-190 from Kao)	8.667	8.667
Dequest 2000	0.100	0.100
Lactic/lactate buffer	0.063	0.063
Polyacrylate thick./in mineral oil, SNF polymer (56 % active)	0.268	0.00
Encapsulated fragrance slurry (Ethylene/maleic anhydride copolymer Coated Capsules)	3.6	3.6
Deionized water	balance	balance

Claims

What is claimed is:

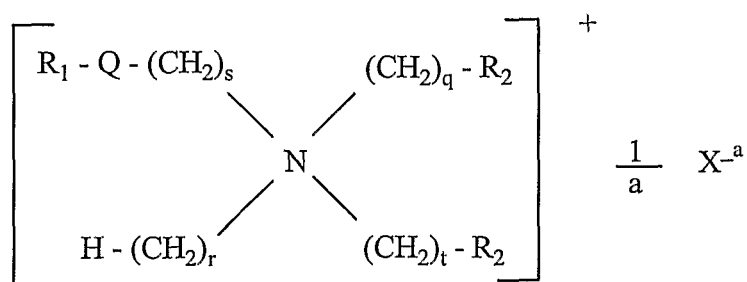
1. A fabric softener composition comprising:
 - (a) from 0.01% to 50% by weight of a cationic or non-ionic softening compound;
 - (b) at least 0.001%, by weight, of a water dispersible cross-linked cationic polymer derived from the polymerization of from 5 to 100 mole percent of a cationic vinyl addition monomer, from 0 to 95 mole percent of acrylamide, and from 5 to 500 ppm of a difunctional vinyl addition monomer cross-linking agent; and
 - (c) an effective amount of at least one fabric or skin benefiting ingredient contained within a microcapsule, the capsule shell comprising urea-formaldehyde or melamine-formaldehyde polymer and a second polymer comprising a polymer or copolymer of one or more anhydrides.
2. A fabric softening composition in accordance with claim 1 wherein the cationic softening compound is selected from the group consisting of:
 - (a) Difatty dialkly quaternary ammonium compounds;
 - (b) Fatty ester quaternary ammonium compounds;
 - (c) Alkyl imidazolinium compounds; and
 - (d) Fatty amide quaternary ammonium compounds
3. A fabric softening composition in accordance with claim 1 wherein the non-ionic softening compound is a fatty amidoamine or fatty esteramine.
4. A fabric softening composition in accordance with claim 1 which contains from 0 to 5%, by weight, of a non-confined fragrance oil.
5. A fabric softening composition in accordance with claim 1 wherein said microcapsule is an aminoplast capsule.

6. A fabric softening composition in accordance with claim 2 wherein said fatty ester quaternary ammonium compound is a biodegradable fatty ester quaternary ammonium compound having the formula:



wherein R4 represents an aliphatic hydrocarbon group having from 8 to 22 carbon atoms, R₂ and R₃ represent (CH₂)_s-R₅ where R₅ represents an alkoxy carbonyl group containing from 8 to 22 carbon atoms, benzyl, phenyl, (C1-C4) – alkyl substituted phenyl, OH or H; R₁ represents (CH₂)_t R₆ where R₆ represents benzyl, phenyl, (C1-C4) – alkyl substituted phenyl, OH or H; q, s, and t, each independently, represent an integer from 1 to 3; and X⁻ is a softener compatible anion.

7. A fatty softening composition in accordance with claim 2 having a biodegradable fatty ester quaternary ammonium compound derived from the reaction of an alkanol amine and a fatty acid derivative followed by quaternization, said fatty ester quaternary ammonium compound being represented by the formula :

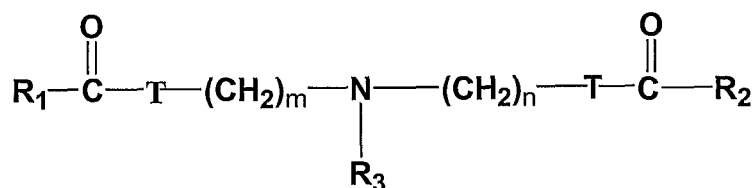


wherein Q represents a carboxyl group having the structure $-\text{OCO}-$ or $-\text{COO}-$; R1 represents an aliphatic hydrocarbon group having from 8 to 22 carbon atoms; R2 represents $-\text{Q-R1}$ or $-\text{OH}$; q, r, s and t, each independently represent a number of from 1 to 3; and X^{-a} is an anion of valence a; and

wherein said fatty ester quaternary ammonium compound is comprised of a distribution of monoester, diester and triester compounds, the monoesterquat compound being formed when each R₂ is $-\text{OH}$; the diesterquat compound being formed when one R₂ is $-\text{OH}$ and the other R₂ is $-\text{Q-R1}$; and the triesterquat compound being formed when each R₂ is $-\text{Q-R1}$; and wherein the normalized percentage of monoesterquat compound in said fatty ester quaternary ammonium compound is from 28% to 39%; the normalized percentage of diesterquat compound is from 52% to 62% and the normalized percentage of triesterquat compound is from 7% to 14%; all percentages being by weight.

8. A fabric softening composition in accordance with claim 3 wherein said fatty amidoamine has the formula I or II as shown herein:

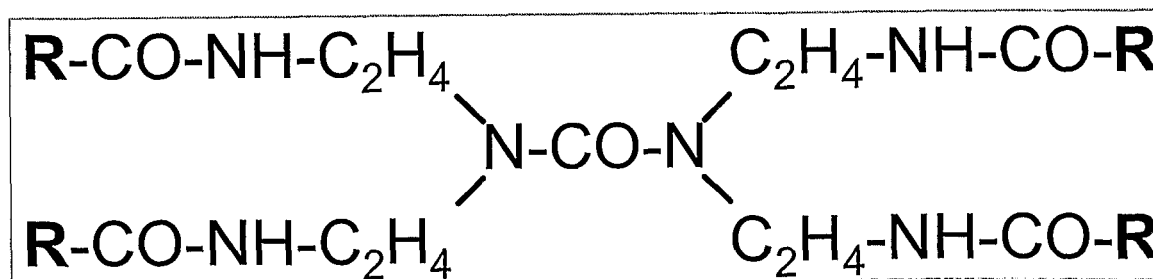
(I)



wherein R₁ and R₂, independently, represent C₁₂ to C₃₀ aliphatic hydrocarbon groups, R₃ represents $(\text{CH}_2\text{CH}_2\text{O})_p\text{H}$, CH₃ or H; T represents NH; n is an integer from 1 to 5; m is an integer from 1 to 5 and p is an integer from 1 to 10; and wherein

formula II is an Alkyl Carbamidoethyl Urea wherein R is a C₁₂ to C₂₂ Alkyl Group:

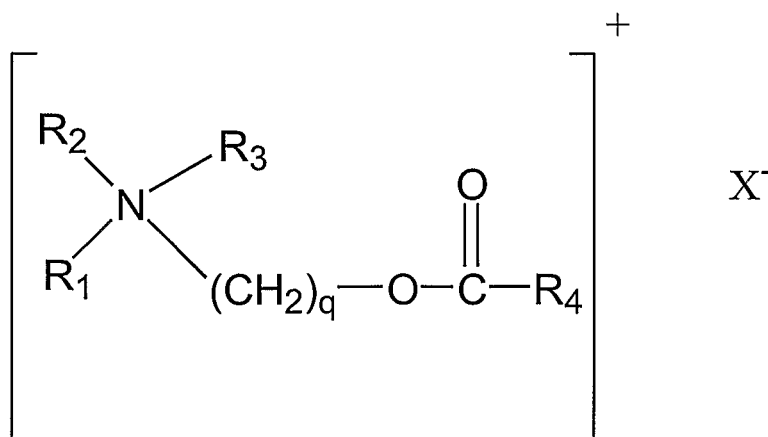
(II)



9. A fabric softening composition in accordance with claim 1 wherein said cross-linked cationic polymer is a cross-linked copolymer of a quaternary ammonium acrylate or methacrylate in combination with an acrylamide co-monomer.

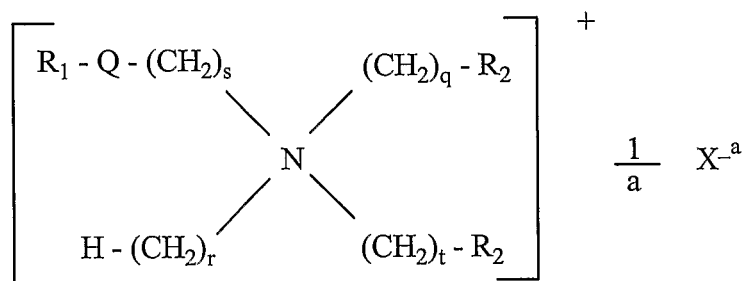
10. A fabric softening composition in accordance with claim 1, wherein the second polymer comprises a polymer or copolymer of one or more cyclic anhydrides.
11. A fabric softening composition in accordance with claim 1 wherein the second polymer comprises maleic anhydride.
12. A fabric softener composition according to claim 1 wherein the second polymer comprises ethylene/maleic anhydride copolymer.
13. A fabric softener composition according to claim 1 wherein the capsule shell comprises melamine-formaldehyde polymer.
14. A fabric softener composition according to claim 1 which further contains water.
15. The softening composition of claim 1 wherein the fabric or skin beneficiating ingredient is selected from the group consisting of perfumes or fragrance oils, anti-bacterial agents, vitamins, skin conditioners, UV absorbers and enzymes.
16. The softening composition of claim 15 wherein the fabric or skin beneficiating ingredient is a perfume or fragrance oil.
17. The softening composition of claim 15 wherein the perfume or skin beneficiating ingredient is mixed with a polymer or non-polymeric carrier material or surfactant or solvent or mixtures thereof.
18. A fabric softening composition in accordance with claim 1 which is in the form of a liquid, powder or gel.
19. A fabric softening composition in accordance with claim 1 which is in the form of a fabric softener sheet.

20. A fabric softening composition in accordance with claim 1 which further contains at least 0.001% of a chelating compound selected from the group consisting of amino carboxylic acid compounds, organo aminophosphonic acid compounds and mixtures thereof.
21. A method of imparting softness to fabrics comprising contacting said fabrics with an effective amount of the fabric softening composition of claim 1.
22. The method of claim 20 wherein said fabrics are contacted during the rinse cycle of a laundry washing machine or hand wash laundry treatment or by a method of direct spraying onto fabrics.
23. The method of claim 20 wherein said fabrics are contacted by direct spraying onto the fabrics.
24. A method in accordance with claim 21 wherein said fabric softening compound is a fatty ester quaternary ammonium compound.
25. A method in accordance with claim 22 wherein said fatty ester quaternary ammonium compound is represented by the formula.



Wherein R₄ represents an aliphatic hydrocarbon group having from 8 to 22 carbon atoms, R₂ and R₃ represent (CH₂)_s-R₅ where R₅ represents an alkoxy carbonyl group containing from 8 to 22 carbon atoms, benzyl, phenyl, (C1-C4) – alkyl substituted phenyl, OH or H; R₁ represents (CH₂)_t R₆ where R₆ represents benzyl, phenyl, (C1-C4) – alkyl substituted phenyl, OH or H; q, s, and t, each independently, represent an integer from 1 to 3; and X⁻ is a softener compatible anion.

26. A method in accordance with claim 25 wherein the fatty ester quaternary ammonium compound is derived from the reaction of an alkanol amine and a fatty acid derivative followed by quaternization, said fatty ester quaternary ammonium compound being represented by the formula :



wherein Q represents a carboxyl group having the structure –OCO– or –COO– ; R₁ represents an aliphatic hydrocarbon group having from 8 to 22 carbon atoms ; R₂ represents –Q-R₁ or –OH ; q, r, s and t, each independently represent a number of from 1 to 3 ; and X^{-a} is an anion of valence a ; and

wherein said fatty ester quaternary ammonium compound is comprised of a distribution of monoester, diester and triester compounds, the monoesterquat compound being formed when each R₂ is –OH ; the diesterquat compound being formed when one R₂ is –OH and the other R₂ is –Q-R₁ ; and the triesterquat compound being formed when each R₂ is –Q-R₁ ; and wherein the normalized percentage of monoesterquat compound in said fatty ester quaternary ammonium compound is from 28% to 39% ; the normalized percentage of diesterquat compound is from 52% to 62% and the normalized percentage of triesterquat compound is from 7% to 14% ; all percentages being by weight.

27. A method in accordance with claim 21 wherein said fabric or skin benefiting ingredient is a perfume or fragrance oil.