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(54) **IMPROVED DETERGENT COMPOSITION**

VERBESSERTES WASCHMITTEL

DETERGENT AYANT UNE COMPOSITION AMELIOREE

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Description

Technical field

[0001] The invention relates to synergistic cleaning compositions, containing surfactants and swellable polymers, which are suited to the cleaning of hard surfaces.

Background Art

[0002] Commercial hard surface cleaning compositions typically comprise one or more surfactants and a plurality of abrasive particles dispersed therein. Combinations of surfactants, together with electrolytes, are often used to form a suspending system for the abrasives, as is well known in the art. Various forms of cleaning compositions are available that are in the form of liquids, pastes, gels, powders and bars. Typical abrasives used in these compositions include calcites and dolomites.

[0003] Hard surfaces within household are kitchenware, kitchen walls and floors, worktops and sinks, , bathrooms walls, floors and fixtures, other floors, etc. and one encounters different types of soil on these surfaces. The soil generally encountered on kitchenware and cooker tops is of two types i.e. the mobile or greasy soil and the tough or difficult to remove soil consisting of dried-on or cooked-on food. The problem of removing this soil becomes more pronounced when the tough soil builds on over a period of time and it requires considerable effort to clean.

In general the level of the surfactant in the cleaning compositions is upto about 20% and the rest is constituted of other ingredients. Abrasives, builders and fillers form an important part of the formulation. It is necessary to add these ingredients to improve the spreadability of the surfactant active on to the cleaning surface especially in hand wash situations.

[0004] Polymers have been used in cleaning compositions for various benefits such as structuring and soil release functions. EP883670 (Unilever, 1998), discloses dishwashing gel compositions for machine wash that have high viscosity. They have a dual component structuring system comprising 0.2-2% of a cross-linked polycarboxylate and an azole.

[0005] EP-A-1 074 608 discloses detergent tablets of compressed particulate material. The tablet or a region thereof contains at least one surface active agent, a builder and a water insoluble but water swellable disintegrating agent. More particularly the tablet or region thereof contains at least 5% by weight of solid surface active agent of which at least a portion is a solid non-ionic surface active agent and does not contain more than 3% by weight of liquid non-ionic surface active agent.

[0006] WO 00/42143 discloses detergent compositions suitable for cleaning laundry or hard surfaces comprising up to 50 wt.% of the total detergent composition of detergent active and gum ghatti, a gum of the water swellable, branched hydrocolloids obtained from the species belonging to the genera Anogeissus

[0007] WO 01/21756 discloses tablets of compacted particulate cleaning composition containing at least one cleaning ingredient which is selected from the group consisting of organic surfactants, water softening agents and bleaches, wherein a water-swellable, water-insoluble disintegration-promoting material is present at a greater concentration in at least one zone adjacent a tablet surface than in an interior zone which is more remote from any surface of the tablet.

[0008] Adding a large amount of water along with abrasives, builders, and fillers adds to the bulk of the product and hence increases the cost and difficulty of transportation from the place of manufacture to the point of use.

[0009] Thus, there is a need for a concentrated cleaning composition that can be converted to a ready-to-use product by the consumer by adding water. This concentrated composition would save on the cost of transport and packaging compared to a dilute composition.

Brief description of the invention

[0010] The present invention provides a synergistic concentrated cleaning composition comprising one or more surfactants and one or more water swellable polymers that can absorb more than their weight of water. The composition can be converted into a voluminous paste or thick liquid by the simple addition of water prior to use, to ensure the spreadability of the composition on a large number of surfaces to be cleaned.

Detailed Description

[0011] All parts and precentages mentioned herein are by weight of the composition unless otherwise specified.

[0012] The present invention thus provides a synergistic cleaning composition comprising surfactants and polymer wherein: one or more surfactants are present in an amount of 5-95%, wherein nonionic surfactant is at least 40% by weight of the total surfactant; and one or more water-swellable polymers that absorb more than their weight of water are present in an amount of 5-95%; wherein the weight ratio of the surfactant to the water swellable polymer is in the range of 1 : 0.4 to 0.4 : 1, and wherein the water-swellable polymer is chosen from the group consisting of polyacrylic

acids, polyacrylates, cross linked acrylate polymers, guar gum and its derivatives, starch-acrylic grafted copolymers, hydrolysates of starch-acrylonitrile grafted copolymers, cross linked polyoxyethylene, cross linked carboxy-methylcellulose, partially cross linked water swellable polymers such as polyethylene oxide and polyacrylamide, and isobutylene/maleic acid copolymer.

[0013] In the context of the present invention, the expression "cleaning composition" refers to compositions in the form of solid powders, tablets, pellets or noodles, or to pastes or gels, that can be converted into a product with enhanced volume by addition of water. The product so obtained can be more easily applied to or spread over the surface to be cleaned.

Surfactants

[0014] The composition according to the invention will comprise one or more surfactants that are generally chosen from anionic, nonionic, cationic, or amphoteric surfactants. It is preferred that the surfactant in the composition is from 5 to 50% more preferably 5 to 25 % by weight of the composition.

[0015] A suitable class of anionic surfactants are water-soluble salts of organic sulphuric acid mono-esters and sulphonic acids having in the molecular structure a branched or straight chain alkyl group containing 8-22 C atoms or an alkylaryl group containing 6-20 C atoms in the alkyl part.

[0016] Examples of such anionic surfactants are water soluble salts of:

- long chain (i.e. 8-22 C-atom) alcohol sulphates (hereinafter referred to as PAS), especially those obtained by sulphating the fatty alcohols produced from tallow or coconut oil or the synthetic alcohols derived from petroleum;
- alkylbenzene-sulphonates, such as those in which the alkyl group contains from 6 to 20 carbon atoms;
- secondary alkanesulphonates.

[0017] Also suitable are the salts of:

- alkylglyceryl ether sulphates, especially of the ethers of fatty alcohols derived from tallow and coconut oil;
- fatty acid monoglyceride sulphates;
- sulphates of ethoxylated aliphatic alcohols containing 1-12 ethyleneoxy groups;
- alkylphenol ethylenoxy-ether sulphates with from 1 to 8 ethyleneoxy units per molecule and in which the alkyl groups contain from 4 to 14 carbon atoms;
- the reaction product of fatty acids esterified with isethionic acid and neutralised with alkali.

[0018] A suitable class of nonionic surfactants can be broadly described as compounds produced by the condensation of simple alkylene oxides, which are hydrophilic in nature, with an aliphatic or alkyl-aromatic hydrophobic compound having a reactive hydrogen atom. The length of the hydrophilic or polyoxyalkylene chain which is attached to any particular hydrophobic group can be readily adjusted to yield a compound having the desired balance between hydrophilic and hydrophobic elements. This enables the choice of nonionic surfactants with the right HLB. Particular examples include:

- the condensation products of aliphatic alcohols having from 8 to 22 carbon atoms in either straight or branched chain configuration with ethylene oxide, such as a coconut alcohol/ethylene oxide condensates having from 2 to 15 moles of ethylene oxide per mole of coconut alcohol;
- condensates of alkylphenols having C6-C15 alkyl groups with 5 to 25 moles of ethylene oxide per mole of alkylphenol;
- condensates of the reaction product of ethylene-diamine and propylene oxide with ethylene oxide, the condensates containing from 40 to 80% of ethyleneoxy groups by weight and having a molecular weight of from 5,000 to 11,000.

[0019] Other classes of nonionic surfactants are:

- alkyl polyglycosides, which are condensation products of long chain aliphatic alcohols and saccharides;
- tertiary amine oxides of structure RRRN0, where one R is an alkyl group of 8 to 20 carbon atoms and the other R's are each alkyl or hydroxyalkyl groups of 1 to 3 carbon atoms, e.g. dimethyldodecylamine oxide;
- tertiary phosphine oxides of structure RRRP0, where one R is an alkyl group of 8 to 20 carbon atoms and the other R's are each alkyl or hydroxyalkyl groups of 1 to 3 carbon atoms, for instance dimethyl-dodecylphosphine oxide;
- dialkyl sulphoxides of structure RRS0 where one R is an alkyl group of from 10 to 18 carbon atoms and the other is methyl or ethyl, for instance methyl-tetradecyl sulphoxide;
- fatty acid alkylolamides, such as the ethanol amides;
- alkylene oxide condensates of fatty acid alkylolamides;
- alkyl mercaptans.

[0020] A specific group of surfactants are the tertiary amines obtained by condensation of ethylene and/or propylene oxide with long chain aliphatic amines. The compounds behave like nonionic surfactants in alkaline medium and like cationic surfactants in acid medium.

[0021] It is possible optionally to include amphoteric, cationic or zwitterionic surfactants in the compositions according to the invention.

[0022] Suitable amphoteric surfactant compounds that optionally can be employed are derivatives of aliphatic secondary and tertiary amines containing an alkyl group of 8 to 18 carbon atoms and an aliphatic radical substituted by an anionic water-solubilizing group, for instance sodium 3-dodecylamino-propionate, sodium 3-dodecylaminopropane sulphonate and sodium N-2-hydroxydodecyl-N-methyltaurate.

Examples of suitable cationic surfactants can be found among quaternary ammonium salts having one or two alkyl or aralkyl groups of from 8 to 20 carbon atoms and two or three small aliphatic (e.g. methyl) groups, for instance cetyltrimethylammonium bromide

[0023] Examples of suitable zwitterionic surfactants can be found among derivatives of aliphatic quaternary ammonium, sulphonium and phosphonium compounds having an aliphatic group of from 8 to 18 carbon atoms and an aliphatic group substituted by an anionic water-solubilising group, for instance: 3-(N,N-dimethyl-N-hexadecylammonium)-propane-1-sulphonate betaine, 3-(dodecylmethyl-sulphonium)-propane-1-sulphonate betaine and 3-(cetylmethyl-phosphonium)-ethanesulphonate betaine. Other well known betaines are the alkylamidopropyl betaines e.g. those wherein the alkylamido group is derived from coconut oil fatty acids.

[0024] Further examples of suitable surfactants are compounds commonly used as surface-active agents given in the well-known textbooks:

> "Surface Active Agents" Vol.1, by Schwartz & Perry, Interscience 1949; "Surface Active Agents" Vol.2 by Schwartz, Perry & Berch, Interscience 1958; the current edition of "McCutcheon's Emulsifiers and Detergents" published by Manufacturing Confectioners Company; "Tenside-Taschenbuch", H. Stache, 2nd Edn., Carl Hauser Verlag, 1981.

[0025] It is particularly preferred that the surfactant is a mixture of anionic and nonionic surfactants in a ratio of at least 1:10 and more preferably at least 1:1

Swellable Polymers:

[0026] The water-swellable polymers are polyacrylic acids and polyacrylates, cross-linked acrylate polymers, guar gum and its derivatives, starch-acrylic grafted copolymers, hydrolysates of starch-acrylonitrile grafted copolymers, cross-linked polyoxyethylene, cross-linked carboxymethylcellulose, partially cross-linked water swellable polymers such as polyethylene oxide and polyacrylamide, isobutylene/maleic acid copolymers, etc. The particularly preferred water swellable polymers are polyacrylic acids and the most preferred are cross linked polyacrylic acids partially neutralised to the sodium salts. The water swellable polymers for the present invention are available as solids and liquids and the preferable forms are solid forms, such as particles, granules, pellets, flakes, short needles and the like.

[0027] It is preferred that the water swellable polymer in the composition is from 5 to 75% more preferably 5 to 50 % by weight of the composition.

Optional Ingredients

Inorganic particulates:

[0028] A particulate insoluble solid phase is an optional ingredient of the compositions according to the present invention.

[0029] Preferably, the particulate phase comprises an abrasive which is insoluble in water. In the alternative, the abrasive may be soluble to some extent and be present in such excess to water present in the composition when it is mixed with water prior to use, that the solubility of the abrasive in the aqueous phase is exceeded and consequently the abrasive exists in the solid phase in the swollen mixture.

[0030] The gel or paste forming capacity of the swellable polymers may be reduced in the presence of certain electrolytes. For example, calcium ions reduces the swellability of the cross linked polyacrylic acid which is a water swellable polymer. Hence while choosing the abrasives and inorganic particulates, care must be exercised to avoid such materials. If their use is absolutely necessary, then they have to be used in minimum quantities.

[0031] Suitable abrasives can be selected from, particulate zeolites, calcites, dolomites, feldspar, silicas, silicates, other carbonates, aluminas, bicarbonates, borates, sulphates and polymeric materials such as polyethylene.

[0032] Preferred abrasives for use in general purpose cleaning compositions have a Moh hardness 2-6 although higher hardness abrasives can be employed for specialist applications.

[0033] Preferred average particle sizes for the abrasive fall in the range 0.5-400 microns, with values of around 5-200 microns being preferred.

Other Optional ingredients

[0034] The composition according to the invention can contain other ingredients which aid in their cleaning performance. For example, the composition can contain detergent builders such as nitrilotriacetates, polycarboxylates, citrates, dicarboxylic acids, water-soluble phosphates (such as polyphosphates, mixtures of ortho- and pyrophosphates), zeolites and mixtures thereof. Compositions according to the invention can also contain, in addition to the ingredients already mentioned, various other optional ingredients such as solvents, colourants, whiteners, optical brighteners, soil suspending agents, detersive enzymes, compatible bleaching agents (particularly hypohalites), and preservatives.

[0035] Inorganic particulars and other optional ingredients can be present in a amuont of up tp 90% of the composition.

[0036] Thus according to a preferred aspect of the present invention there is provided a synergistic cleaning composition comprising:

a) 5-50% of one or more surfactants that has at least 40% of the total surfactant weight as nonionic surfactant
b) 5-75% of one or more of water swellable polymer that absorbs more than its weight of water and
c) optionally up to 90% by weight. of inorganic particulates and other conventional ingredients.

[0037] Thus according to a more preferred aspect of the present invention there is provided a synergistic cleaning composition comprising :

a) 5-25% of one or more surfactant that has at least 40% of the weight of the total surfactant as nonionic surfactant
b) 5-50% by weight.of one or more of water swellable polymer that absorbs more than its weight of water and
10-90% by weight inorganic particulates and other conventional ingredients.

[0038] The invention will now be illustrated with respect to the following non-limiting examples.

Examples:

i. Effect of the polymer-surfactant interaction on gel formation:

[0039] Compositions as outlined in Table 1 were prepared by mixing of the surfactant and the polymer. The products were obtained as a powdery mass. 50g of water was added to each of these products and allowed to stand for 1-2 minutes. The visual appearance of the products after addition of water and the gel volume obtained are also presented in the table 1.

Measurement of Gel volume (ml) after addition of excess water:

[0040] The paste/thick liquids formed in Example 1-6 above were transferred to separate 250 mL graduated measuring cylinders and the volume was made up to 250mL by adding water. The contents of the cylinders were stirred for a minute and were allowed to settle overnight and observed. The contents of the cylinders separated into two phases (in Examples 1,2,3 and 6). The gel formed by the swellable polymer settled in the bottom while the water layer was at the top. The volume of the gel layer was measured. The volume of the gels (in presence of excess amount of water) indicates the gel forming capacity of the swellable polymer in presence of the surfactants. It is inferred that the more the gel volume, the less is the negative impact of the surfactant on the the swellable polymer.

Table 1

Composition Weight in grams.	Ex 1	Ex 2	Ex 3	Ex 4	Ex 5	Ex 6
Linear alkyl benzene sulphonate	0.5	-	0.25	0.5	-	-
Fatty alcohol 7EO (carbon chain length C12 to C18)	-	0.5	0.25	-	0.5	-
Cross-linked poly-acrylic acid GE 500F Kolon Chemicals)	0.5	0.5	0.5	-	-	0.5
Added Water	50	50	50	50	50	50

(continued)

Product Characteristics						
Physical Appearance after adding 50mL water	Soft Gel	Good solid like Gel	Gel	Liqui d	Liqui d	Soft Gel
Gel volume (mL) after addition of excess water	58	68	60	0	0	75
EX1, EX4, EX5 and EX6 an comparative examples						

[0041] The data presented in table 1 show that the polymer is essential for forming a gel and in presence of nonionic surfactants the polymer forms a good solid like gel. This shows that the choice of the surfactant is important in determining the gel strength and volume which in turn determines the consistency of the paste formed.

ii. Effect of the nature of the surfactant on gel formation:

[0042] Anionic surfactant and nonionic surfactant in different ratios in compositions described in table 2 were studied to determine the effect on gel formation. The product was mixed with water and the nature of the gel was studied. Measurement of Gel volume (mL) after addition of excess water was determined by the procedure described above. The performance was also assessed by considering the cleaning efficiency.

Measurement of cleaning efficacy:

[0043] 1g of the gel formed by adding 100 g water on to 7.5g powder was taken as a swipe using an implement and a soiled plate was cleaned. Different parameters of cleaning and in-use properties were determined during the cleaning operation. Based on an overall benefit the cleaning efficacy was graded on a scale of 1-5 where '1' refers to 'poor' and '5' refers to 'good' performance.

Table 2

Composition Weight in g.	Ex 7	Ex 8	Ex 9	Ex 10	Ex 11	Ex 12	Ex 13
Linear alkyl benzene sulphonate	1.5	-	-	1.5	-	1.35	0.9
Ethoxylated fatty alcohol C12-18 3EO	-	1.5	-	-	1.5	0.15	0.6
Cross-linked poly-acrylic acid GE 500F	1.5	1.5	1.5	-	-	1.5	1.5
Sodium tri-polyphosphate	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Alkaline silicate	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Inorganic particulates	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Added Water	100	100	100	100	100	100	100
Product character after addition of water							
Physical Appearance	Gel	Best solid gel	Gel	Liq.	Liq.	Gel	Good solid gel
Gel volume (ml)	98	142	152	0	0	126	100
Cleaning	5	3	0	1	1	4	4
EX 7, EX 9, EX 10, EX 11 and EX 12 are comparative examples							

[0044] The data presented in Table 2 show that the polymer is essential for obtaining a consistent gel but performs poorly with regard to cleaning (Example 9). When the surfactant alone is present in the absence of the polymer no gel is obtained and the cleaning efficacy is reduced (examples 10 and 11) because the polymer aids in the spreadability of the active. The performance of the compositions as in Examples 7, 8,12 and 13, in terms of gel formation and cleaning efficacy indicate that the right combination of the surfactant and the polymer is important in obtaining a composition that has both optimal cleaning and good gel strength.

Claims

1. A synergistic cleaning composition comprising surfactants and polymer wherein:

   a) one or more surfactants are present in an amount of 5-95%, wherein nonionic surfactant is at least 40% by weight of the total surfactant; and
   b) one or more water-swellable polymers that absorb more than their weight of water are present in an amount of 5-95%;

   wherein the weight ratio of the surfactant to the water swellable polymer is in the range of 1 : 0.4 to 0.4 : 1, and wherein the water-swellable polymer is chosen from the group consisting of polyacrylic acids, polyacrylates, cross linked acrylate polymers, guar gum and its derivatives, starch-acrylic grafted copolymers, hydrolysates of starch-acrylonitrile grafted copolymers, cross linked polyoxyethylene, cross linked carboxy-methylcellulose, partially cross linked water swellable polymers such as polyethylene oxide and polyacrylamide, and isobutylene/maleic acid co-polymer.

2. A composition according to claim 1 wherein the water-swellable polymer is chosen from polyacrylic acids or partially neutralised sodium salts of cross linked polyacrylic acids.

3. A composition according to any of claims 1 to 2 wherein the water-swellable polymer is from 5 to 75% of the composition.

4. A composition according to claim 3 wherein the water-swellable polymer is from 5 to 50% of the composition.

5. A composition according to any of claims 1 to 4 wherein the surfactants are chosen from anionic and nonionic surfactants.

6. A composition according to claims 5 wherein the weight ratio of the anionic to nonionic surfactants is at least 0.1:1

7. A composition according to claim 6 wherein the weight ratio of the anionic to nonionic surfactant is 1:1.

8. A composition according to any of claims 1 to 7 wherein the composition comprises total surfactants in the range of 5 to 50% of the composition.

9. A composition according to claim 8 wherein the composition comprises surfactants in the range of 5 to 25% of the composition.

10. A composition according to any of claims 1 to 9 wherein the composition is in the form of solid powders, tablets, pellets, noodles, pastes or gels.

11. A composition according to any of claims 1 to 10 wherein the water-swellable polymer is in the form of solid.

12. A composition according to claim 11 wherein the water-swellable polymer is in the form of particles, granules, pellets, flakes, or short needles.

13. A composition according to any one of claims 1-12 wherein the composition additionally comprises up to 90% of inorganic particulates and other conventional ingredients.

14. A composition according to any of claims 1 to 13 wherein the composition includes 10 to 90% of inorganic particulate phase.

15. A composition according to claims 13 or 14 wherein the particulate phase is a water-insoluble or partly soluble abrasive.

Patentansprüche

1. Synergistische Reinigungszusammensetzung, umfassend Tenside und Polymer, worin:

a) ein oder mehrere Tenside in einer Menge von 5-95 % vorliegen, wobei nichtionisches Tensid mindestens 40 Gewichtsprozent des Gesamttensids ist; und
b) ein oder mehrere in Wasser quellbare Polymere, die mehr als deren Gewicht an Wasser absorbieren, in einer Menge von 5-95 % vorliegen;

wobei das Gewichtsverhältnis von dem Tensid zu dem in Wasser quellbaren Polymer in dem Bereich von 1 : 0,4 bis 0,4 : 1 liegt, und wobei das in Wasser quellbare Polymer aus der Gruppe, bestehend aus Polyacrylsäuren, Polyacrylaten, vernetzten Acrylatpolymeren, Guargummi und dessen Derivaten, Stärke-Acryl-gepfropften Copolymeren, Hydrolysaten von Stärke-Acrylnitril-gepfropften Copolymeren, vernetztem Polyoxyethylen, vernetzter Carboxymethylcellulose, teilweise vernetzten, in Wasser quellbaren Polymeren, wie Polyethylenoxid und Polyacrylamid, und Isobutylen / Maleinsäure-Copolymer, ausgewählt ist.

2. Zusammensetzung nach Anspruch 1, worin das in Wasser quellbare Polymer aus Polyacrylsäuren oder teilweise neutralisierten Natriumsalzen von vernetzten Polyacrylsäuren ausgewählt ist.

3. Zusammensetzung nach einem der Ansprüche 1 bis 2, worin das in Wasser quellbare Polymer 5 bis 75 % der Zusammensetzung beträgt.

4. Zusammensetzung nach Anspruch 3, worin das in Wasser quellbare Polymer 5 bis 50 % der Zusammensetzung beträgt.

5. Zusammensetzung nach einem der Ansprüche 1 bis 4, worin die Tenside aus anionischen und nichtionischen Tensiden ausgewählt sind.

6. Zusammensetzung nach Anspruch 5, worin das Gewichtsverhältnis von den anionischen zu nichtionischen Tensiden mindestens 0,1 : 1 beträgt.

7. Zusammensetzung nach Anspruch 6, worin das Gewichtsverhältnis von dem anionischen zu nichtionischem Tensid 1 : 1 beträgt.

8. Zusammensetzung nach einem der Ansprüche 1 bis 7, worin die Zusammensetzung Gesamttenside in dem Bereich von 5 bis 50 % der Zusammensetzung umfasst.

9. Zusammensetzung nach Anspruch 8, worin die Zusammensetzung Tenside in dem Bereich von 5 bis 25 % der Zusammensetzung umfasst.

10. Zusammensetzung nach einem der Ansprüche 1 bis 9, worin die Zusammensetzung in Form von festen Pulvern, Tabletten, Pellets, Nudeln, Pasten oder Gelen vorliegt.

11. Zusammensetzung nach einem der Ansprüche 1 bis 10, worin das in Wasser quellbare Polymer in Form eines Feststoffs vorliegt.

12. Zusammensetzung nach Anspruch 11, worin das in Wasser quellbare Polymer in Form von Teilchen, Granulaten, Pellets, Flocken oder kurzen Nadeln vorliegt.

13. Zusammensetzung nach einem der Ansprüche 1 bis 12, worin die Zusammensetzung zusätzlich bis zu 90 % anorganische teilchenförmige Stoffe und andere herkömmliche Bestandteile umfasst.

14. Zusammensetzung nach einem der Ansprüche 1 bis 13, worin die Zusammensetzung 10 bis 90 % von anorganischer teilchenförmiger Phase einschließt.

15. Zusammensetzung nach Anspruch 13 oder 14, worin die teilchenförmige Phase ein in Wasser unlöslicher oder teilweise löslicher abrasiver Stoff ist.

Revendications

1. Composition nettoyante synergique comprenant des tensioactifs et des polymères, dans laquelle :

a) un ou plusieurs tensioactifs sont présents en une quantité de 5 à 95 %, où le tensioactif non-ionique représente au moins 40 % en poids du tensioactif total ; et
b) un ou plusieurs polymères gonflables à l'eau qui absorbent plus que leur poids d'eau et sont présents en une quantité de 5 à 95 % ;

dans laquelle le rapport en poids du tensioactif au polymère gonflable à l'eau est situé dans la plage allant de 1/0,4 à 0,4/1, et dans laquelle le polymère gonflable à l'eau est choisi dans l'ensemble constitué par les poly(acides acryliques), les polyacrylates, les polymères d'acrylate réticulés, la gomme de guar et ses dérivés, les copolymères greffés d'amidon-acryliques, les copolymères greffés d'hydrolysats d'amidon-acrylonitrile, le polyoxyéthylène réticulé, la carboxyméthylcellulose réticulée, les polymères gonflables à l'eau partiellement réticulés tels que le poly (oxyde d'éthylène), et le polyacrylamide, et le copolymère d'isobutylène/acide maléique.

2. Composition selon la revendication 1, dans laquelle le polymère gonflable à l'eau est choisi parmi les poly(acides acryliques) et les sels de sodium partiellement neutralisés de poly(acides acryliques) réticulés.

3. Composition selon l'une quelconque des revendications 1 et 2, dans laquelle le polymère gonflable à l'eau représente de 5 à 75 % de la composition.

4. Composition selon la revendication 3, dans laquelle le polymère gonflable à l'eau représente de 5 à 50 % de la composition.

5. Composition selon l'une quelconque des revendications 1 à 4, dans laquelle les tensioactifs sont choisis parmi les tensioactifs anioniques et non-ioniques.

6. Composition selon la revendication 5, dans laquelle le rapport en poids des tensioactifs anioniques à non-ioniques est d'au moins 0,1/1.

7. Composition selon la revendication 6, dans laquelle le rapport en poids des tensioactifs anioniques à non-ioniques est de 1/1.

8. Composition selon l'une quelconque des revendications 1 à 7, dans laquelle la composition comprend les tensioactifs totaux à raison de 5 à 50 % de la composition.

9. Composition selon la revendication 8, dans laquelle la composition comprend des tensioactifs à raison de 5 à 25 % de la composition.

10. Composition selon l'une quelconque des revendications 1 à 9, dans laquelle la composition est sous la forme de poudres solides, de tablettes, de pastilles, de nouilles, de pâtes ou de gels.

11. Composition selon l'une quelconque des revendications 1 à 10, dans laquelle le polymère gonflable à l'eau est sous la forme d'un solide.

12. Composition selon la revendication 11, dans laquelle le polymère gonflable à l'eau est sous la forme de particules, de granules, de pastilles, de copeaux, ou d'aiguilles courtes.

13. Composition selon l'une quelconque des revendications 1 à 12, dans laquelle la composition comprend de plus jusqu'à 90 % de matériaux particulaires inorganiques et d'autres ingrédients conventionnels.

14. Composition selon l'une quelconque des revendications 1 à 13, dans laquelle la composition comprend 10 à 90 % de phase particulaire inorganique.

15. Composition selon la revendication 13 ou 14, dans laquelle la phase particulaire est un abrasif insoluble ou partiellement soluble dans l'eau.