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(54) Title: A SOLID COSMETIC CLEANSING COMPOSITION

(57) Abstract: A solid cosmetic composition in form of a tablet or a powder contains at least one solid anionic surfactant, an effervescent system developing gas and a disintegration system. The composition can be used as a cleansing composition for hair and skin.



A Solid Cosmetic Cleansing Composition

Technical Field

The present invention belongs to the cosmetic field, and relates to a solid cosmetic composition in form of a tablet or a powder, which may be used as a cleansing composition for hair and skin.

Background Art

Cleansing products are supposed to cleanse the skin and hair. After using such products, the consumer has a feeling of cleanliness, freshness and well-being. Removing dirt from the skin or hair has always been a need for human beings. Over time, the way, how to cleanse the body and hair has changed as well as the products, which are provided for cleansing. Today, it is popular to cleanse the body and hair by taking a shower bath or a bath. The hair may be washed separately.

Body cleansing products are primarily used to remove dirt from the skin surface. External solid or liquid components, which reached the skin and were deposited thereupon, or components applied to the skin, for instance as make-up, are part of the dirt on the skin, which is to be removed. Furthermore, the dirt on the skin also includes excess skin lipids and dead cells. By the aid of surfactants in the cleansing compositions, the components of the dirt are solubilized and removed from the surface of the skin during rinsing off.

Hair consists of a hair shaft and a hair root. The hair shaft protrudes freely from the skin, and is a keratinized (dead) section of the hair. The hair shaft represents the actual visible part of the hair, which is continually renewed. The hair root sticks in the skin and is the living part of the hair. The hair shaft is composed of three layers: the central part, which is called hair marrow (medulla), is regressed in humans, often completely missing; then the marrow, also called cortex; and cuticle as the outermost layer, comprising up to ten horny layers.

Human hair in its freshly grown condition is virtually impossible to improve. The part of the hair in the vicinity of the scalp accordingly has a virtually closed horny layer. In particular, the horny layer, being the external sheath of the hair, and also the inner region below the cuticle are subjected to particular stress by environmental influences.

In general, cleansing products used for body and hair cleansing are mainly in form of cleansing gels, sometimes in form of cleansing emulsions or cleansing mousses. These products are provided in packaging units, which are relatively large. This is because said products contain large amounts of water, mostly more than 50 %, sometimes between 80 and 90 %.

There is a need for smaller packaging units, especially people who are travelling prefer small packaging items for their cosmetic products.

Smaller packaging units have further advantages, the expenses for transport are reduced, because smaller packaging units weigh less and need a smaller space.

A solution to that problem is provided by cleansing products, which contain only very little or no water.

Prior art discloses such products in form of bath tablets.

DE 19950018 A1 describes bath tablets consisting of multiple phases, especially two phases, which dissolve in water with different speeds. Thereby two different effects, a cleansing effect and a caring effect, will become effective at different times.

US 7204856 B2 is directed to cosmetic compositions in a shaped body, which upon dissolving in water generate viscous preparations mainly used for coloring hair. A shampoo tablet is also disclosed.

Further prior art referring to bath tablets or bath salts may be found in US 6565881 B1, DE 3512717 A1, FR 2152810 A, EP 0333223 B1, US 5110603, and JP 03074321 A.

DE 102005007293 A1 describes cleansing compositions provided as capsules. The main ingredients according to DE 102005007293 A1 are surfactants having cleansing properties, at least one hydrogen carbonate and at least one organic acid chosen from citric acid or lactic acid.

Summary of the Invention

However, there is a need to further improve cleansing compositions provided in form of tablets or powders. The process of dissolving the tablet or powder shall be quick and easy.

The generation of a sufficient amount of small porous foam, which forms quickly, is also desirable. Besides cleansing the composition shall also provide care for skin and hair.

Compositions having a good cleansing performance and at the same time being easy to use are desirable for the consumer. In addition, the product itself should be attractive and the handling should be simple.

Surprisingly, a solid cosmetic cleansing composition in form of a powder containing

at least one solid anionic surfactant, preferably chosen from an alkyl sulfate, an alkyl ether carboxylate, an isethionate, an alkyl sulfosuccinate, an alkyl ether sulfate, an alkyl sulfonate, and/or an amino acid based surfactant, more preferably an alkylsulfosuccinate and/or an amino acid based surfactant,

an effervescent system developing gas, e.g., CO₂, preferably containing a component generating CO₂ and an acid, wherein the component generating CO₂ is bicarbonate and/or carbonate, e.g., sodium bicarbonate and/or sodium carbonate, and the acid is chosen from at least one organic acid, e.g., citric acid and/or lactic acid, and

a disintegration system, preferably chosen from a polysaccharide or its derivative thereof, .e.g., starch, cellulose and/or their derivatives, more preferably a combination of two different starch derivatives, especially a combination of hydroxypropyl starch phosphate and sodium carboxymethyl starch,

could bring about the improvements.

Likewise, a solid cosmetic cleansing composition in form of a tablet containing

at least one solid anionic surfactant, preferably chosen from an alkyl sulfate, an alkyl ether carboxylate, an isethionate, an alkyl sulfosuccinate, an alkyl ether sulfate, an alkyl sulfonate, and/or an amino acid based surfactant, more preferably an alkylsulfosuccinate and/or an amino acid based surfactant,

an effervescent system developing gas, e.g., CO₂, preferably containing a component generating CO₂ and an acid, wherein the component generating CO₂ is bicarbonate and/or carbonate, e.g., sodium bicarbonate and/or sodium carbonate, and the acid is chosen from at least one organic acid, e.g., citric acid and/or lactic acid,

a disintegration system, preferably chosen from a polysaccharide or its derivative thereof, .e.g., starch, cellulose and/or their derivatives, more preferably a combination

of two different starch derivatives, especially a combination of hydroxypropyl starch phosphate and sodium carboxymethyl starch, and
at least one solid synthetic polymer,

could bring about the improvements.

The compositions of the present invention are cosmetic compositions.

There is no addition of water to the composition of the present invention; however there may be small amounts of water in the composition of the present invention coming from the raw materials used, which may comprise small amounts of water. The compositions of the invention contain less than 10 % by weight, preferably less than 3 % by weight water, in relation to the total weight of the composition.

The composition of the present invention contains at least one anionic surfactant, which has to be solid. Each anionic surfactant may be used, as long as it is provided in a solid form. Examples are alkyl sulfates, alkyl ether carboxylates, isethionates, alkyl sulfosuccinates, alkyl ether sulfates, alkyl sulfonates. Said surfactants are contained as alkaline sodium, magnesium, ammonium or alkanol ammonium salts.

However it is preferred, if at least one alkylsulfosuccinate is contained in the compositions of the present invention. It is more preferred, if the anionic surfactant is disodium lauryl sulfosuccinate, which may be contained as the only surfactant, but also in combination with further surfactants, especially amino acid based surfactants. Disodium lauryl sulfosuccinate may be purchased as REWOPOL SB F 12P from the company Evonik.

However, it is likewise preferred, if amino acid based surfactants are contained, which have also to be available in solid form. Amino acid based surfactants are anionic surfactants. Advantageously, amino acid based surfactants are acyl amino acids (and their salts), examples being presented in the following listing:

- Acyl glutamates, for example, sodium acyl glutamate, such as sodium lauroyl glutamate, sodium myristoyl glutamate, and sodium palmoyl glutamate,
- sarcosinates, for example, sodium lauroyl sarcosinate, and sodium cocoyl sarcosinate,
- glycinate, for example sodium cocoylglycinate.

Advantageously are also amino acids where the derivatization took place at the side chain of the molecule. Examples are derivatives of the amino acid lysine, such as lauroyl lysine. In the

compositions according to the invention amino acid based surfactants may be contained as a single surfactant, but also in combination with one or more alkyl sulfosuccinates and/or in combination with one or more further amino acid based surfactants.

In the compositions according to the present invention the at least one solid anionic surfactant is contained in an amount of 10 to 30 % by weight, preferably 10 to 25 % by weight, in relation to the total weight of the composition.

Additionally, further surfactants may be contained, with the proviso that they are available as solids. Suitable examples are surfactants based on the structure of betaine, for example Cocamidopropylbetaine, or surfactants based on one or more glucose residues and an n-alkyl residue, also called alkyl poly glucosides.

The compositions of the present invention contain an effervescent system. In general, an effervescent system develops gas, in the present invention carbon dioxide is developed. Therefor the effervescent system contains a component generating carbon dioxide and an acid, both reacting with each other in an aqueous phase. In the present invention the carbon dioxide generating component is sodium bicarbonate. According to the present invention the acid is chosen from an organic acid, preferably citric and/or lactic acid. It is most preferred, if citric acid is contained.

In the present invention sodium bicarbonate and/or sodium carbonate are contained in an amount of 15 to 50 % by weight, preferably 20 to 45 % by weight, in relation to the total amount of the composition.

In the present invention the at least one organic acid is contained in an amount of 20 to 45 % by weight, preferably 20 to 30 % by weight, in relation to the total amount of the composition.

The compositions of the present invention contain a disintegration system, the components of said disintegrating system may also be termed fillers.

A couple of components have been described to function as disintegration auxiliaries, some of which being polysaccharides or derivatives thereof. Said components may be starch or cellulose as such, or derivatives obtained by an esterification or etherification of the hydroxyl groups of starch or cellulose molecules.

The substances, which function as disintegrants, rapidly increase in volume as water is absorbed and/or adsorbed; these substances are swelling.

According to the present invention the disintegrating system contains preferably two different starch derivatives. It is more preferred, if hydroxypropyl starch phosphate and sodium carboxymethyl starch is contained. It is even more preferred, if the weight ratio between hydroxypropyl starch phosphate and sodium carboxymethyl starch is from 0.1 : 1 to 5 : 1, preferably from 0.5 : 1 to 2 : 1. It is most preferred, if only hydroxypropyl starch phosphate and sodium carboxymethyl starch are contained in the composition of the present invention. Hydroxypropyl starch phosphate may be purchased as STRUCTURE XL from AkzoNobeland sodium carboxymethyl starch may be purchased as VIVASTAR CS INSTANT POWDER from J. Rettenmaier & Söhne.

In the composition of the present invention the combination of two different starch derivatives is contained in an amount of 7.0 to 25 % by weight, preferably 9.5 to 20 % by weight, in relation to the total weight of the composition.

If the composition of the present invention is provided in form of a tablet, at least one polymer has to be contained, which has to be available in solid form.

Advantageously, the at least one solid polymer is of synthetic origin.

The at least one polymer may be built from monomers chosen from acrylamide, methacrylamide, acrylic esters, methacrylic esters, itaconic mono- and diesters, vinylpyrrolidone, vinyl ether and vinyl ester. It is preferred, if the resulting polymer is a nonionic polymer. It is more preferred, if at least the monomer vinylpyrrolidone is contained in the at least one polymer.

Polymers only containing the monomer vinylpyrrolidone are termed polyvinylpyrrolidone (PVP). Said polymers may be purchased as Luviskol K 90 Pulver from the company BASF.

Likewise, it is more preferred, if the at least one polymer contains vinylpyrrolidone monomers and further nonionic monomers, especially a polymer mainly containing vinylpyrrolidone and vinyl acetate (PVP/VA). PVP/VA polymers may be purchased as Luviskol VA 64 Powder from the company BASF.

In the composition of the present invention the at least one homo- and/or co-polymer containing vinylpyrrolidone monomers is contained in an amount of 0.5 to 8.0 % by weight, preferably 1.0 to 5.0 % by weight, in relation to the total composition.

Furthermore the at least one polymer may be built from a multitude of ethylene glycol residues and/or propylene glycol residues. The resulting molecules are polyethylene glycols (PEG) or polypropylene glycols (PPG) or poloxamers. According to the invention it is preferred, if polymers only consisting of ethylene glycol residues are contained. The numbers given behind the term PEG indicate the average molecular weight. One ethylene glycol residues has a molecular mass of about 44 g/mol. For instance, if in average 9 ethylene glycol residues are contained in a polymer, the resulting molecular weight is about 400 g/mol, the polymer is termed PEG 400.

According to the invention, it is preferred if PEG 6000 is contained. PEG 6000 may be purchased from DOW Chemical.

In the composition of the present invention the at least one synthetic polymer consisting of ethylene glycol residues, preferably PEG 6000, is contained in an amount of 0.05 to 10.0 % by weight, preferably 1.0 to 5.0 % by weight, in relation to the total weight of the composition.

In a further preferred embodiment a polymer chosen from homo- or co-polymers containing vinylpyrrolidone monomers and PEG 6000 are contained in the composition of the present invention. It is more preferred, if the weight ratio of the polymer chosen from homo- or co-polymers containing vinylpyrrolidone monomers to PEG 6000 is 30 : 1 to 1 : 1, preferably 10 : 1 to 2 : 1. It is even more preferred, if PVP or PVP/VA and PEG 6000 are contained.

Additionally, further components may be contained.

Advantageously, conditioning agents may be contained. According to their chemical nature conditioning agents belong to different chemical classes. All conditioning agents get into contact with the surface of the skin and the hair and may interact with the surface. In relation to hair, conditioning agents should stay on the surface of hair, at least in part. As a result the combability, structure, and shine of hair, to mention only a few, are improved.

Conditioning agents may be divided in water soluble and water insoluble agents. Cationic surfactants and polymers may be classified as water soluble conditioning agents. Lipid components, such as oils, fats, waxes, and silicones may be classified as water insoluble.

Advantageously, the compositions according to the present invention contain cationic polymers, especially cationic polymers derived from natural polymers. Examples of such polymers are starch, cellulose, or guar molecules.

The cationic polymers of natural origin may be modified in such a way that permanently cationic substituents are introduced or substituents are introduced, which are cationic at specific pH values, specifically at those pH values, which will adjust, when the composition of the present invention dissolves. An example of a modified guar molecule is guar hydroxypropyltrimonium chloride. An example of a modified cellulose molecule is a quaternary ammonium salt of hydroxyethylcellulose. Guar hydroxypropyltrimonium chloride may be purchased as Jaguar C162, Jaguar Excel, Jaguar C17, Jaguar C14, Jaguar 13 from Rhodia. The quaternary ammonium salt of hydroxyethylcellulose, which has the INCI name Polyquaternium 10, may be purchased from Dow as Ucare Polymer JR 125, Ucare Polymer JR 400. If one or more natural based cationic polymer(s) is/are contained in the composition of the present invention, said polymer(s) have to be available in solid form.

In the composition of the present invention one or more natural based cationic polymer(s) are contained in an amount of 0.1 to 10.0 % by weight, in relation to the total weight of the composition.

The compositions according to the present invention may contain silicones.

Silicones are synthetic polymers containing silicium atoms connected via oxygen atoms. The functional unit consisting of silicium atom and oxygen atom is called siloxane, having the general formula: $R_nSiO_{(4-n)/2}$ ($n=0, 1, 2, 3$). Derived from this formula, it becomes obvious that the siloxane unit can have four different sets of residues, illustrated by the following notation:

M (mono), M corresponding to $R_3SiO_{1/2}$,

D (di), D corresponding to $R_2SiO_{2/2}$,

T (tri), T corresponding to $RSiO_{3/2}$ and

Q (quatro), Q corresponding to $SiO_{4/2}$.

The siloxane units are connected in a variety of different ways, generally in a linear or cross-linked way or combining parts of a linear structure and parts of a cross-linked structure in one molecule. Four main groups of silicones may be differentiated:

- Cyclic polysiloxanes, built from bifunctional siloxane units, D_n .
- Linear polysiloxanes, having the structure MD_nM , respectively $R_3SiO[R_2SiO]_nSiR_3$, such as for example polydimethylsiloxane.
- Crosslinked polysiloxanes are linear or cyclic molecules, building two- or three-dimensional networks by the incorporation of tri- and tetra-functional siloxane units.

- Branched polysiloxanes contain tri- and tetra-functional siloxane units and have the formula $M_nD_mT_n$. The branching points are located in a polysiloxane chain or ring.

Furthermore, silicone may be differentiated by different substituents. A wide variety of substituents of silicones and combinations thereof have been described.

A suitable silicone component, which may be contained in the compositions according to the invention is a Dimethicone/Vinyl Dimethicone crosspolymer, which may be purchased from Dow Corning with the trade name DOWSIL 9701.

Further suitable components are silicas, which may be purchased from JGC Catalysts Chemicals Ltd. as Satinier or from the company Wacker as Hydrophilic HDK 20.

Advantageously, the compositions according to the present invention may contain water-soluble vitamins or natural or synthetic derivatives thereof in a solid form. These vitamins include Vitamin B (thiamine, riboflavin, niacin, pantothenic acid, biotin, cyanocobalamine, pyridoxine, folio acid, inositol); Vitamin C (ascorbic acid); and combinations thereof. Biotin may be purchased as D-Biotin, Niacinamide may be purchased as Niacinamide PC and Sodium Ascorbyl Phosphate may be purchased as Stay-C 50, all from the company DSM.

Furthermore, colorants may be contained in the compositions of the present invention. All colorants are suitable, if they are water-soluble and provided in a solid form. For instance, colorants may be purchased from the company Inter-Harz as Norit SX Super E 153 (CI 77268.1), from Shanghai Dyestuffs Research Institute Co. as Food additive-Brilliant blue 85 (INCI:CI42090, Acid blue 9), and from the company Sensient as Unicert Yellow 08005-J (Yellow 5).

The composition of the present invention may be prepared by any technique known or effective to prepare a cleansing composition in form of a powder or a tablet. The process to prepare the compositions of the present invention comprises conventional formulating and mixing techniques. However, it is preferred, if the compositions of the present invention are produced using the following method:

For preparing the compositions of the present invention the temperature is 25°C or less, and the air humidity is 30% or less.

Process of preparation:

- Dry all necessary raw materials, which are in form of a powder, separately in an oven at 50-55°C for about 24 hours.
- Mix all powder ingredients.
- Spray perfume into powder mixture and mix until all ingredients are uniformly distributed.
- If the composition of the invention is a powder, fill powder at 30% humidity and 25°C in suitable packaging devices.
- If the composition of the invention is a tablet, press the powder into a tablet and put it in a suitable packaging device.

The tablets of the present invention are contained in a suitable packaging device, which are preferably a press through package, a strip packaging, or a sachet.

Each single tablet may be contained in a sachet or strip packaging alone.

A sachet is a small closed plastic or paper bag containing a small quantity of content. Preferably, sachets are single dosage packaging units. Sachets may usually be made of plastic and if necessary, be provided in an air-tight sealable version. Small quantities of cosmetics such as shampoo or shower gel, towels for refreshment, eyeglass cleaning cloths, but also of food, such as smaller quantities of mustard or ketchup may be contained. Advertising samples are also offered in sachets. If the sachets are used for drugs, the drugs may also be packaged in powder or granular form, as well as in liquid, cream and gel form in a sachet ensuring to provide dose-appropriate quantities. Sachets for this purpose may be polyester-aluminum-polyethylene laminates.

The powder composition of the present invention is contained in a suitable packaging device, preferably in a press through package, a strip packaging, or a sachet. Preferably, the sachet or the strip packaging containing the powder composition according to the present invention is air-tight sachet, more preferably sealed with an inner plastic sheet.

Examples

The examples illustrating the present invention are not intended to limit the invention in any aspect. One skilled in the art should know that, changes and modifications may be carried out to technical solutions of the present invention within the spirit and scope of the present invention.

Examples illustrating powder compositions:Example 1:

INCI	m [%]
Disodium Lauryl Sulfosuccinate	16.00
Guar Hydroxypropyltrimonium Chloride	4.00
Hydroxypropyl Starch Phosphate	8.50
Citric Acid	28.00
Sodium bicarbonate	35.00
Sodium Carboxymethyl Starch	8.50
Total:	100.00

Example 2:

INCI	m [%]
Sodium Lauroyl Glutamate	9.00
Lauroyl Lysine	1.00
Guar Hydroxypropyltrimonium Chloride	4.00
Hydroxypropyl Starch Phosphate	5.50
Citric Acid	30.00
Sodium bicarbonate	45.00
Sodium Carboxymethyl Starch	5.50
Total:	100.00

Example 3:

INCI	m [%]
Sodium Myristoyl Glutamate	5.00
Sodium CocoylGlycinate	5.00
Polyquarternium-10	4.00
Hydroxypropyl Starch Phosphate	8.50
Citric Acid	30.00

Sodium bicarbonate	42.00
Sodium Carboxymethyl Starch	5.50
Total:	100.00

Example 4:

INCI	m [%]
Sodium Palmoyl Glutamate	5.00
Sodium CocoylGlycinate	5.00
Polyquarternium-10	4.00
Hydroxypropyl Starch Phosphate	9
Citric Acid	30.00
Sodium bicarbonate	40.00
Sodium Carboxymethyl Starch	8
Total:	100.00

Example 5:

INCI	m [%]
Sodium Lauroyl Sarcosinate	10.00
Guar Hydroxypropyltrimonium Chloride	4.00
Hydroxypropyl Starch Phosphate	5.50
Citric Acid	30.00
Sodium bicarbonate	45.00
Sodium Carboxymethyl Starch	5.50
Total:	100.00

Examples illustrating tablet compositions:Example 1:

INCI	m [%]
Disodium Lauryl Sulfosuccinate	14.00
Guar Hydroxypropyltrimonium Chloride	4.00

Hydroxypropyl Starch Phosphate	8.50
Citric Acid	28.00
Sodium bicarbonate	35.00
Sodium Carboxymethyl Starch	8.50
PEG 6000	2.00
Total:	100.00

Example 2:

INCI	m [%]
Sodium Lauroyl Glutamate	9.00
Lauroyl Lysine	1.00
Guar Hydroxypropyltrimonium Chloride	4.00
Hydroxypropyl Starch Phosphate	5.50
Citric Acid	30.00
Sodium bicarbonate	42.00
Sodium Carboxymethyl Starch	5.50
PVP/VA	3.0
Total:	100.00

Example 3:

INCI	m [%]
Sodium Myristoyl Glutamate	5.00
Sodium CocoylGlycinate	5.00
Polyquarternium-10	4.00
Hydroxypropyl Starch Phosphate	6.50
Citric Acid	30.00
Sodium bicarbonate	42.00
Sodium Carboxymethyl Starch	5.50
PVP/VA	1.00
PEG 6000	1.00
Total:	100.00

Example 4:

INCI	m [%]
Sodium Palmoyl Glutamate	5.00
Sodium CocoylGlycinate	5.00
Polyquarternium-10	4.00
Hydroxypropyl Starch Phosphate	7.00
Citric Acid	30.00
Sodiumbicarbonate	40.00
SodiumCarboxymethylStarch	6.00
PEG 6000	4.00
Total:	100.00

Example 5:

INCI	m [%]
Sodium Lauroyl Sarcosinate	10.00
Guar Hydroxypropyltrimonium Chloride	4.00
Hydroxypropyl Starch Phosphate	5.50
Citric Acid	30.00
Sodiumbicarbonate	44.00
SodiumCarboxymethylStarch	5.50
PEG 6000	1.00
Total:	100.00

Instruction for the use of the powder or the tablet in a preferred manner:

- Fill 20-30 ml water in a cup.
- Add approximately 2g powder or a tablet into cup, foam will form spontaneously, wait for a few seconds until the powder or the tablet is dissolved (solution)*.
- Wet hair, pour the solution onto the hair, shampoo the hair 1-3mins, and then rinse off or distribute the solution on the body and cleanse the body, and then rinse off.

* Stirring and/or shaking will help and accelerate dissolving the compositions of the invention and contribute to the generation of a higher amount of foam.

After dissolving an appropriate amount of the powder composition or a tablet foam is formed in a sufficient and satisfying manner. After using of the solubilized compositions of the invention a caring effect will be noticed.

The solution obtained after dissolving the powder or the tablet may also be used to cleanse the face. Said solution is intended for the use of the human skin and hair.

Claims

1. A solid cosmetic cleansing composition in form of a powder containing

at least one solid anionic surfactant, preferably chosen from an alkyl sulfate, an alkyl ether carboxylate, an isethionate, an alkyl sulfosuccinate, an alkyl ether sulfate, an alkyl sulfonate, and/or an amino acid based surfactant, more preferably an alkylsulfosuccinate and/or an amino acid based surfactant,

an effervescent system developing gas, e.g., CO₂, preferably containing a component generating CO₂ and an acid, wherein the component generating CO₂ is bicarbonate and/or carbonate, e.g., sodium bicarbonate and/or sodium carbonate, and the acid is chosen from at least one organic acid, e.g., citric acid and/or lactic acid, and

a disintegration system, preferably chosen from a polysaccharide or its derivative thereof, .e.g., starch, cellulose and/or their derivatives, more preferably a combination of two different starch derivatives, especially a combination of hydroxypropyl starch phosphate and sodium carboxymethyl starch.

2. A solid cosmetic cleansing composition in form of a tablet containing

at least one solid anionic surfactant, preferably chosen from an alkyl sulfate, an alkyl ether carboxylate, an isethionate, an alkyl sulfosuccinate, an alkyl ether sulfate, an alkyl sulfonate, and/or an amino acid based surfactant, more preferably an alkylsulfosuccinate and/or an amino acid based surfactant,

an effervescent system developing gas, e.g., CO₂, preferably containing a component generating CO₂ and an acid, wherein the component generating CO₂ is bicarbonate and/or carbonate, e.g., sodium bicarbonate and/or sodium carbonate, and the acid is chosen from at least one organic acid, e.g., citric acid and/or lactic acid,

a disintegration system, preferably chosen from a polysaccharide or its derivative thereof, .e.g., starch, cellulose and/or their derivatives, more preferably a combination of two different starch derivatives, especially a combination of hydroxypropyl starch phosphate and sodium carboxymethyl starch, and

at least one solid synthetic polymer.

3. The cleansing composition according to claim 1 or 2 characterized in that the composition contains less than 10 % by weight, preferably less than 3 % by weight water, in relation to the total weight of the composition.
4. The cleansing composition according to any of the preceding claims characterized in that the alkylsulfosuccinate is disodium lauryl sulfosuccinate.
5. The cleansing composition according to any of the preceding claims characterized in that the at least one amino acid based surfactant is acyl amino acid or its salt thereof, preferably chosen from acyl glutamate, e.g., sodium lauroyl glutamate, sodium myristoyl glutamate, sodium palmoyl glutamate, sarcosinate, e.g., sodium lauroyl sarcosinate, sodium cocoyl sarcosinate, glycinate, e.g., sodium cocoylglycinate, and/or a derivative of lysine, e.g., lauroyl lysine.
6. The cleansing composition according to any of the preceding claims characterized in that the at least one solid anionic surfactant is contained in a total amount of 10 to 30 % by weight, preferably 10 to 25 % by weight, in relation to the total weight of the composition.
7. The cleansing composition according to any of the preceding claims characterized in that sodium bicarbonate and/or sodium carbonate is contained in an amount of 15 to 50 % by weight, preferably 20 to 45 % by weight, in relation to the total amount of the composition.
8. The cleansing composition according to any of the preceding claims characterized in that the at least one organic acid is contained in a total amount of 20 to 45 % by weight, preferably 20 to 30 % by weight, in relation to the total amount of the composition.
9. The cleansing composition according to any of the preceding claims characterized in that the combination of two different starch derivatives contains hydroxypropyl starch phosphate and sodium carboxymethyl starch, preferably only hydroxypropyl starch phosphate and sodium carboxymethyl starch.
10. The cleansing composition according to any of the preceding claims characterized in that the weight ratio between hydroxypropyl starch phosphate and sodium carboxymethyl starch is from 0.1 : 1 to 5 : 1, preferably from 0.5 : 1 to 2 : 1.
11. The cleansing composition according to any of the preceding claims characterized in that the combination of two different starch derivatives is contained in an amount of 7.0 to 25 % by weight, preferably 9.5 to 20 % by weight, in relation to the total weight of the composition.

12. The cleansing composition according to any of claims 2 to 11 characterized in that the cleansing composition provided in form of a tablet contains at least one solid polymer being of synthetic origin, preferably being a nonionic polymer, more preferably containing monomers chosen from acrylamide, methacrylamide, acrylic esters, methacrylic esters, itaconic mono-and diesters, vinylpyrrolidone, vinyl ether and vinyl ester.

13. The cleansing composition according to claim 12 characterized in that the at least one nonionic polymer contains vinylpyrrolidone monomers, preferably the at least one nonionic polymer is polyvinylpyrrolidone (PVP) and/or a vinylpyrrolidone/vinyl acetate polymer (PVP/VA).

14. The cleansing composition according to claim 12 or 13 characterized in that the at least one nonionic polymer containing vinylpyrrolidone monomers is contained in a total amount of 0.5 to 8.0 % by weight, preferably 1.0 to 5.0 % by weight, in relation to the total composition.

15. The cleansing composition according to claim 12 characterized in that the at least one solid synthetic polymer is built from a multitude of ethylene glycol residues and/or propylene glycol residues.

16. The cleansing composition according to claim 12 characterized in that the at least one solid synthetic polymer consists of ethylene glycol residues, termed polyethylene glycol (PEG).

17. The cleansing composition according to claim 16 characterized in that the at least one solid synthetic polymer consisting of ethylene glycol residues is PEG 6000.

18. The cleansing composition according to claim 16 characterized in that the at least one solid synthetic polymer consisting of ethylene glycol residues is contained in an amount of 0.05 to 10.0 % by weight, preferably 1.0 to 5.0 % by weight, in relation to the total weight of the composition.

19. The cleansing composition according to any of claims 2 to 18 characterized in that at least one nonionic polymer chosen from homo- or co-polymers containing vinylpyrrolidone monomers and PEG 6000 are contained.

20. The cleansing composition according to claim 19 characterized in that the weight ratio of the at least one nonionic polymer chosen from homo- or co-polymers containing vinylpyrrolidone monomers and PEG 6000 is 30 : 1 to 1 : 1, preferably 10 : 1 to 2 : 1.

21. The cosmetic product comprising the solid cosmetic cleansing composition according to any of the preceding claims and a packaging device, characterized in that the packaging device is a press through package, a strip packaging, or a sachet.

22. The cosmetic product according to claim 21 characterized in that the sachet is an air-tight sachet, preferably sealed with an inner plastic sheet.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2018/119439

A. CLASSIFICATION OF SUBJECT MATTER		
A61K 8/02(2006.01)i; A61K 8/73(2006.01)i; A61K 8/36(2006.01)i; A61K 8/46(2006.01)i; A61Q 5/02(2006.01)i; A61Q 19/10(2006.01)i		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols) A61K; A61Q		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Database: VEN, DWPI, CPRSABS, CNABS, CNTXT, CNKI, EPTXT, WOTXT; Keywords: cosmetic, particle, beiersdorf, effervesce, effervescence, carboxymethyl, citric, sodium, starch, gas, lactic, solid, polysaccharide, cellulose		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN 1838937 A (THE PROCTER & GAMBLE COMPANY) 27 September 2006 (2006-09-27) claims 1-2, 8-9 and the abstract	1-22
A	CN 1954795 A (JOHNSON & JOHNSON CONSUMER COMPANIES INC.) 02 May 2007 (2007-05-02) claim 1	1-22
☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search 22 August 2019		Date of mailing of the international search report 11 September 2019
Name and mailing address of the ISA/CN National Intellectual Property Administration, PRC 6, Xitucheng Rd., Jimen Bridge, Haidian District, Beijing 100088 China		Authorized officer GUO, Yixin
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INTERNATIONAL SEARCH REPORT
Information on patent family members

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				WO	2005020952	A2	10 March 2005
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