

DESCRIPTION

Cleaning agent composition for wiping

5 Technical Field

 The present invention relates to a cleaning agent composition for wiping skin used in the form of a dilution with water or warm or hot water. More specifically, the present invention relates to a cleaning agent composition for wiping dirt, especially on clunes, anal periphery, or
10 vulva, that has sufficient cleaning properties, that does not cause the skin to be sticky after use, that allows the skin to retain vitality and moisture sufficiently, that prevents the skin from being chapped, that hardly causes redeposition, and that has excellent temporal stability.

15 Background Art

 In our daily lives, it is necessary to periodically remove dirt stemming from outside dirt or secretions such as sebaceous matter and perspiration from the body. In general, such dirt is removed by cleaning the body with so-called cleaning agents such as solid or liquid soaps, for
20 example, when taking a bath. However, this is difficult for babies or physically handicapped people, and therefore it is necessary that a caretaker wipe and remove dirt using a wet towel or the like so as to clean the body. Herein, an agent used for preparing a body cleaner in such a case is referred to as a "cleaning agent for wiping". In general,
25 cleaning agents are classified roughly into a type for direct use without being diluted and a type that is diluted with warm or hot water for use.

 Among these, cleaning agents for wiping that is diluted for use

are generally diluted by about 10 to 1000-fold with warm or hot water for use. Therefore the effective components contained in the agent are diluted to low concentrations, and thus this type is often disadvantageous in terms of the cleaning properties and moisture-retaining properties after use, compared with the type that is used without dilution. However, this dilution type-cleaning agent is advantageous in terms of safety because the concentration in actual use is low, and furthermore, the agent provides comfort to a person to be taken care of because water having a preferable temperature can be used at the time of dilution. Furthermore, since the amount of an agent used at one time is small, consumers feel that it has a merit in the cost, and thus, this type is commonly used for geriatric care or wiping and cleaning baby bodies.

Particularly in recent years, the demand for cleaning agents for wiping has grown rapidly as the aging of society advances, and it is desired to develop more functional and better cleaning agents for wiping. In particular, clunes, anal periphery, and vulva are delicate portions because such portions may include exposed mucous membranes and the portions are wiped many times because specific dirt is attached. Therefore, there is a demand for a cleaning agent for wiping that has safer and higher functions. Cleaning agents for wiping having dimethyl polysiloxane or polyether-modified silicone as their main components as disclosed in Japanese Laid-Open Patent Publication Nos. 64-38018 and 64-79108 have been developed, but neither of them has sufficient cleaning properties and provides sufficient vitality or moisture to the skin after use. Moreover, these cleaning agents do not have the effect of providing sufficient barriers to the skin after use to prevent the skin

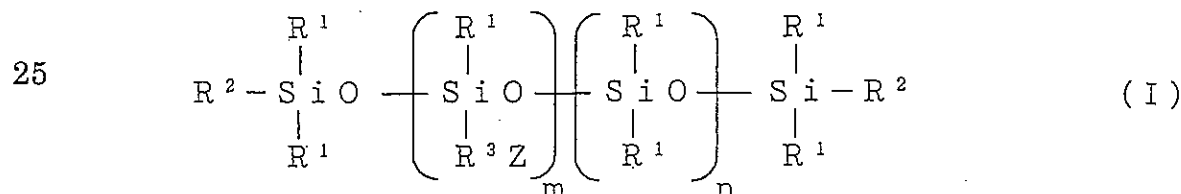
from being chapped. Furthermore, redeposition of dirt of human waste or the like cannot be prevented when the skin is rewiped (rewiping is performed). That is to say, dirt is transferred from a towel or the like that has been provided with such a cleaning agent and has been used for
 5 wiping another dirty portion.

Thus, in the cleaning agents of the type that is diluted for use, there is a demand for a safe cleaning agent composition for wiping that has sufficient cleaning properties especially when used for clunes, anal periphery, or vulva, that does not cause the skin to be sticky after use,
 10 that allows the skin to retain sufficient vitality and moisture, that prevents the skin from being chapped, that hardly causes redeposition of dirt at the time of rewiping and that has excellent temporal stability.

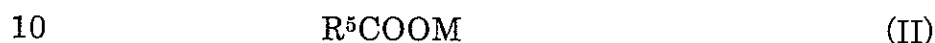
Disclosure of Invention

15 As a result of in-depth research of the above-described problems, the inventors succeeded in obtaining a desired cleaning agent composition for wiping by combining a specific silicone compound, a specific fatty acid soap, a specific nonionic surfactant and water-soluble polyhydric alcohol in a specific ratio.

20 The cleaning agent composition for wiping of the present invention comprises: (a) 0.01 to 1 wt% of amino-modified silicone expressed by formula (I):



wherein R^1 is each independently a methyl group or a phenyl group, and at least one of the R^1 is a methyl group; R^2 is each independently a methyl group, a hydroxyl group or R^3Z , wherein R^3 is each independently an alkylene group having 3 to 6 carbon atoms, Z is an amino group
5 expressed by $-N(R^4)_2$ or $-NR^4(CH_2)_a N(R^4)_2$, wherein R^4 is each independently a hydrogen atom or an alkyl group having 1 to 4 carbon atoms, and a is an integer of 2 to 6; and m and n are each independently an integer of 0 to 20000, and $m+n = 30$ to 20000; (b) 0.05 to 2 wt% of a fatty acid soap expressed by formula (II):



wherein R^5COO is a linear or branched fatty acid residue having 8 to 24 carbon atoms; and M is an alkali metal atom; (c) 0.05 to 2 wt% of a nonionic surfactant of polyoxyethylene sorbitan ester; and (d) 1 to 20 wt% of water-soluble polyhydric alcohol.

15 In a preferred embodiment, the cleaning agent composition for wiping of the present invention further comprises: (e) at least one extract selected from the group consisting of an extract from leaves of tea (*C. sinensis* L.) belonging to the *Camellia* genus in the *Camellia* family, an extract from a plant of *Houttuynia* Thunb belonging to the *Houttuynia*
20 genus in the *Houttuynia* family, an extract from a plant of *Artemisia* L. belonging to the *Artemisia* genus in the *Compositae* family, and an extract from a plant of *Phellodendron* Rupr. belonging to the *Phellodendron* genus in the *Rutaceae* family in an amount of 0.00005 to 1 wt% in terms of a weight of dry residue.

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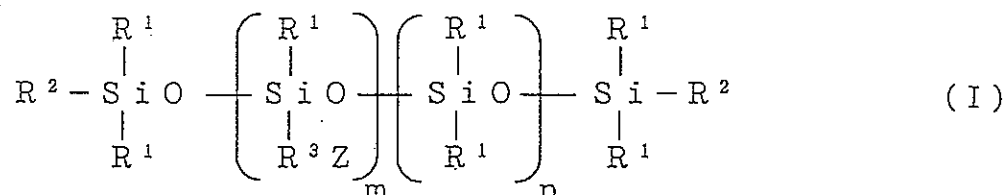
Best Mode for Carrying Out the Invention

The cleaning agent composition for wiping of the present

invention contains the following components (a), (b), (c), and (d), and if necessary, a component (e), an additive (f), a solvent (g) and the like. The content of each component of the cleaning agent composition for wiping of the present invention is a content with respect to the total amount of the composition including a solvent (water, in general).

(a) Amino-modified silicone

The amino-modified silicone is a compound expressed by formula (I):



In formula (I), R^1 is each independently a methyl group or a phenyl group, and at least one of the R^1 is a methyl group.

R^2 is each independently a methyl group, a hydroxyl group or R^3Z .

R^3 is each independently an alkylene group having 3 to 6 carbon atoms, preferably $-(CH_2)_3-$.

Z is an amino group expressed by $-N(R^4)_2$ or $-NR^4(CH_2)_a N(R^4)_2$, and R^4 is each independently a hydrogen atom or an alkyl group having 1 to 4 carbon atoms, and a is an integer of 2 to 6. Preferable examples of such an amino group include $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$, $-NH(CH_2)_2NH_2$, $-NH(CH_2)_2NHCH_3$, or $-NH(CH_2)_2N(CH_3)_2$.

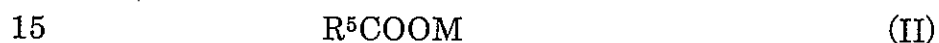
m and n are each independently an integer of 0 to 20000, and

$m+n = 30$ to 20000. $m+n$ is preferably 100 to 20000, and more preferably 1000 to 20000.

The amino modified silicone is contained in a ratio of 0.01 to 1 wt%, preferably 0.03 to 0.7 wt%, and even more preferably 0.05 to 1 wt% with respect to the total amount of the cleaning agent composition for wiping of the present invention. When the amount is less than 0.01 wt%, the skin becomes sticky after use, and the anti-redeposition effect is insufficient. When the amount exceeds 1 wt%, it is difficult to contain the amino-modified silicone uniformly in the composition including a solvent, and this is disadvantageous in terms of the cost.

(b) Fatty acid soap

The fatty acid soap is an alkali metal salt of a fatty acid expressed by formula (II):



wherein R^5COO is a linear or branched fatty acid residue having 8 to 24 carbon atoms; and M is an alkali metal atom.

Examples of the fatty acids include linear fatty acids such as lauric acid, myristic acid, palmitic acid, stearic acid, palmitoleic acid, oleic acid, linoleic acid and linolenic acid; branched saturated fatty acids such as isostearic acid; and mixed fatty acids such as coconut oil fatty acid, palm kernel oil fatty acid, palm oil fatty acid, olive oil fatty acid, sunflower oil fatty acid, tallow fatty acid and hardened tallow fatty acid. Among these, one or more fatty acids containing at least 75 wt% of cis- Δ^9 -octadecenoic acid (commonly referred to as "oleic acid") and at least 85 wt% of cis- Δ^9 -unsaturated fatty acid including the oleic acid are preferable in terms of stability, touch at the time of wiping, and an

anti-skin chapping effect, and one or more fatty acids containing at least 80 wt% of cis- Δ^9 -octadecenoic acid (i.e., oleic acid) and at least 85 wt% of cis- Δ^9 -unsaturated fatty acid including the oleic acid are more preferable.

5 As M of the alkali metal atom, sodium, potassium or the like can be employed, and potassium is preferable in terms of stability and solubility of the compound.

 The fatty acid soap is contained in a ratio of 0.05 to 2 wt%, preferably 0.07 to 1.5 wt%, even more preferably 0.1 to 1 wt% with
10 respect to the total amount of the cleaning agent composition for wiping of the present invention. With less than 0.05 wt%, not only the cleaning properties are poor, but also the anti-skin chapping effect is insufficient. When the amount exceeds 2 wt%, the skin feels dry after use, and moisture of the skin is insufficient so that the touch is poor, and the
15 stability of the composition may be reduced.

(c) Nonionic surfactant of polyoxyethylene sorbitan ester

 The nonionic surfactant of polyoxyethylene sorbitan ester is generally produced by adding ethylene oxide to an ester (i.e., sorbitan
20 fatty acid ester) obtained by reacting sorbitan and a fatty acid in a molar ratio of 1:1 to 1:4. Examples of the fatty acid include a linear fatty acid such as lauric acid, myristic acid, palmitic acid, stearic acid, palmitoleic acid, oleic acid, linoleic acid and linolenic acid; a branched saturated fatty acid such as isostearic acid; mixed fatty acids such as coconut oil
25 fatty acid, palm kernel oil fatty acid, palm oil fatty acid, olive oil fatty acid, sunflower oil fatty acid, tallow fatty acid and hardened tallow fatty acid. Lauric acid or oleic acid is preferable. The average mole number

of added ethylene oxide is 5 to 100, preferably 10 to 60.

The nonionic surfactant of polyoxyethylene sorbitan ester is contained in a ratio of 0.05 to 2 wt%, preferably 0.07 to 1.5 wt%, even more preferably 0.1 to 1 wt% with respect to the total amount of the cleaning agent composition for wiping of the present invention. When the content is less than 0.05 wt%, not only the cleaning properties are poor, but also the stability of the composition is poor. When the amount exceeds 2 wt%, the touch after use is poor.

10 (d) Water-soluble polyhydric alcohol

The water-soluble polyhydric alcohol is a water-soluble compound having at least two hydroxyl groups in one molecule, and is a substance commonly used as a moisturizing agent in cosmetics. Specific examples thereof include propylene glycol, dipropylene glycol, isoprene glycol, 1,3-butylene glycol, glycerin, diglycerin, polyethylene glycol, sorbitol and maltitol. Among these, dipropylene glycol, isoprene glycol, 1,3-butylene glycol, glycerin, diglycerin and polyethylene glycol are preferable alcohols. A polyethylene glycol having a molecular weight of 600 to 4000 is more preferable.

20 The water-soluble polyhydric alcohol is contained in a ratio of 1 to 20 wt%, preferably 3 to 18 wt%, even more preferably 5 to 15 wt% with respect to the total amount of the cleaning agent composition for wiping of the present invention. When the amount is less than 1 wt%, the touch after use and the stability of the composition are poor. When the amount exceeds 20 wt%, the dispersibility at the time of dilution is poor.

(e) Plant extract

The plant extract contained in the cleaning agent composition for wiping of the present invention is at least one selected from the group consisting of the following plant extracts (i) to (iv).

- (i) Extract from leaves of tea of *C. sinensis* L. belonging to the
5 *Camellia* genus in the *Camellia* family

This is an extract from the leaves of tea of *C. sinensis* L. belonging to the *Camellia* genus in the *Camellia* family with at least one solvent selected from the group consisting of water and lower alcohols (ethanol, isopropyl alcohol, propylene glycol, 1,3-butylene glycol and the
10 like). Generally, the tea is classified roughly into two kinds. One is var. *sinensis* used as so-called green tea, and the other is var. *assamica* (Mast.) Kitam. used as red tea. Either of the two kinds can be used in the present invention. When preparing an extract from these tea leaves, in general, it is preferable to perform a treatment of raw leaves such as
15 drying, fermentation (with enzyme in tea leaves), heating with steam and roasting as a pre-treatment. Examples of nonfermented tea obtained by heating raw tea leaves without any other treatment include green tea and yellow tea. More specific examples thereof include steamed tea such as "Gyokuro" (refined green tea), "Sencha" (infused tea),
20 "Matcha" (powdered green tea), "Bancha" (coarse green tea) and "Hojicha" (roasted tea); and tea that has been roasted in a pot such as "Gyokuryokucha" and Chinese green tea. Examples of fermented tea produced by fermentation (i.e., oxidation reaction of components of tea leaves by enzyme in the tea leaves) include black tea, red tea and white
25 tea, and an example of semi-fermented tea that is therebetween is oolong tea.

- (ii) Extract from a plant of *Houttuynia* Thunb belonging to the

Houttuynia genus in the Houttuynia family.

This is an extract from the above-ground part or the entire plant of Houttuynia Thunb belonging to the Houttuynia genus in the Houttuynia family with at least one solvent selected from the group consisting of water and lower alcohols (e.g., ethanol, isopropyl alcohol, propylene glycol, 1,3-butylene glycol and the like). An extract from the above-ground part at the flowering time of *H. cordata* Thunb belonging to the Houttuynia genus in the Houttuynia family (commonly referred to in Japanese as "Juyaku", which is its natural medication name) is preferable.

(iii) Extract from a plant of *Artemisia* L. belonging to the *Artemisia* genus in the Compositae family

This is an extract from the leaves or the entire plant of a plant of *Artemisia* L. belonging to the *Artemisia* genus in the Compositae family with at least one solvent selected from the group consisting of water and lower alcohols (e.g., ethanol, isopropyl alcohol, propylene glycol, 1,3-butylene glycol and the like). Examples thereof include an extract from *Artemisia absinthium* (*A. absinthium* L.), *Chrysanthemum Pallasianum* (*A. capillaris* Thunb.), *Artemisia japonica* (*A. japonica* Thunb.), *Artemisia princeps* (*A. princeps* Pamp.), *Artemisia maritima* (*A. maritima* L.), *A. mongoria* Fisch., or sage (*A. montana* Pamp.). The extract from the leaves of *Artemisia japonica* (*A. japonica* Thunb.), *Artemisia princeps* (*A. princeps* Pamp.), *A. mongoria* Fisch., or sage (*A. montana* Pamp.) is preferable.

(iv) Extract from a plant of *Phellodendron* Rupr. belonging to the *Phellodendron* genus in the Rutaceae family

This is an extract from the bark of a plant of *Phellodendron* Rupr.

belonging to the *Phellodendron* genus in the Rutaceae family with at least one solvent selected from the group consisting of water and lower alcohols (e.g., ethanol, isopropyl alcohol, propylene glycol, 1,3-butylene glycol and the like). The extract from the bark of *Phellodendron*
5 *amurense* (*P. amurense* Rupr.) from which the periderm thereof is removed (commonly referred to in Japanese as "Obaku", which is its natural medication name) is preferable.

The extracts from the plants (i) to (iv) are contained in the cleaning agent composition for wiping of the present invention as
10 necessary for the purpose of further improving moisture retaining of the skin after use, the anti-skin chapping effect, and the effect on the vitality of the skin. It is preferable that the extract is contained in the cleaning agent composition for wiping of the present invention in a ratio of 0.00005 to 1 wt%, more preferably 0.0001 to 0.5 wt% in terms of the
15 weight of dry residue. When the amount of the extract is less than 0.00005 wt%, it is difficult to obtain the effect of the addition. When the amount of the extract exceeds 1 wt%, the stability of the composition may be poor, and moreover this is disadvantageous in terms of the cost. The "dry residue" as used in the present invention generally refers to a
20 dried solute that is a residue when the extract is dried at 105°C or a dried solute that is a residue obtained by removing the solvent of the extract under reduced pressure until the solute is dried. When the solvent for extraction is nonvolatile, the amount of the solute is obtained based on the amount of the solvent determined by gas chromatography,
25 high-performance liquid chromatography or the like, and the obtained amount is regarded as the amount of the dry residue.

(f) Additive

As additives, any additive that can be commonly used in cosmetics can be used, and can be contained in the composition of the present invention, as long as it does not impair the performance of the composition. Examples of additives include lower alcohols such as ethanol and isopropyl alcohol; hydrocarbon oils such as liquid paraffin, liquid isoparaffin, squalane, vaseline and solid paraffin; natural oils and fats such as tallow, lard and fish oil; synthetic triglyceride such as glyceryl tri-2-ethylhexanoate; ester oils such as isopropyl myristate, isopropyl palmitate, cetyl palmitate, ethyl oleate, oleyl oleate, and octyldodecyl myristate; waxes such as beeswax and carnauba wax; silicone derivatives such as linear or cyclic dimethylpolysiloxane, and polyether-modified dimethylpolysiloxane; oil bases such as ceramide, cholesterol, protein derivatives, lanolin, lanolin derivatives and lecithin; nonionic surfactants such as polyoxyethylene alkyl ether, polyethylene glycol fatty acid ester, polyoxypropylene alkyl ether, polypropylene glycol fatty acid ester, sorbitan fatty acid ester, polyoxyethylene hardened castor oil, polyglycerin fatty acid ester, glycerol mono-fatty acid ester, alkyl polyglucoside, polyoxyethylene-polyoxypropylene block polymer, and alkanolamide; anionic surfactants such as soaps, alkyl sulfates, alkylether sulfates, α -olefin sulfonate, acylmethyl taurates, acyl glutamic acid salts, acyl glycine salts, acyl sarcosine salts, acyl isethionate, alkyl ether carboxylate, amidoether sulfates, and alkyl phosphates; amphoteric surfactants such as alkyl dimethylaminoacetic acid betaine, amidopropyl dimethylaminoacetic acid betaine, amidoamino acid salt, and alkyliminodiacetate; semi-polar surfactants such as alkylamine oxide and polyoxyethylene alkylamine oxide; cationic

surfactants such as alkyl trimethylammonium chloride and dialkyl dimethylammonium chloride; hydrochloride or acetate of alkylamine; hydrochloride or acetate of amidoamine; inorganic powders such as talc, kaolin, sericite, mica, vermiculite, magnesium carbonate, calcium carbonate, diatomaceous earth, magnesium silicate, calcium silicate, aluminum silicate, barium silicate, strontium silicate, barium sulfate, metal salts of tungstic acid, silica, zeolite, hydroxyapatite, boron nitride and ceramics; organic powders such as crystalline cellulose, polyethylene powder, and polytetrafluoroethylene powder; inorganic pigments such as titanium oxide, zinc oxide, red iron oxide, yellow ocher, carbon black, cobalt violet, chromium oxide, and ultramarine blue; pearl pigments such as mica coated with titanium oxide, fish scale foil, mica coated with colored titanium oxide; metal powder pigments such as aluminum powder and copper powder; organic pigments such as Red No. 201, Orange No. 204, Yellow No. 205 and Blue No. 404; zirconium compounds such as Red No. 3, Red No. 106, Red No. 227, Yellow No. 4, Yellow No. 6, and Blue No. 1; natural colorant such as chlorophyll and β -carotene; water-soluble polymers such as alginic acid, carboxyvinyl polymers, carboxymethyl cellulose, hydroxypropylmethyl cellulose, hydroxyethyl cellulose, xanthan gum, hyaluronic acid, a copolymer of 2-(meth)acryloyloxyethyl phosphorylcholine and (meth)acrylic acid acrylic ester; inorganic or organic salts such as magnesium sulfate, sodium chloride, sodium citrate, sodium pyrrolidonecarboxylate; pH modifiers such as an acid and an alkali; disinfectants; chelating agents; antioxidants; ultraviolet absorbers; anti-inflammatory agents; natural extracts derived from animals or plants; and perfume substances.

When an additive as above is contained, it should be contained in

the composition in a range that does not impair the stability of the composition.

(g) Solvent

5 As the solvent, in general, water (e.g., purified water or the like) is used. The balance of the total content (% by weight) of the above components (a) to (f) is made up of a solvent.

 The cleaning agent composition for wiping of the present invention contains the specific components in a predetermined ratio, so
10 that the cleaning properties are sufficient, the skin is not sticky after use and retains sufficient vitality and moisture, and skin chapping is prevented. In addition, redeposition of dirt is hardly caused at the time of rewiping, the temporal stability is excellent, and long term storage is possible. This composition is designed to be used in a dilution of about
15 5 to 100-fold, preferably about 10 to 80-fold and therefore has a merit in the cost. Thus, the composition of the present invention is preferably used as a cleaning agent for wiping skin, especially dirt on clunes, anal periphery, vulva or the like.

20 Examples

 Next, the present invention will be described more specifically by way of examples. The cleaning agent composition for wiping produced in the present invention was evaluated regarding its performance by the methods (1) to (5) described below.

25 (1) Cleaning properties and anti-redeposition properties

 The cleaning agent composition for wiping was diluted by 30-fold with purified water, and a "wet artificially soiled cloth" (specified in

JIS-C9606) manufactured by the Washing Chemistry Association was washed at 40°C for 10 minutes with a Terg-O-tometer and rinsed with water in the same amount three times. Thereafter, dewatering and blow drying were performed, and the degree of whiteness was measured with a "Color Tester" manufactured by Nippon Denshoku Industries Co., Ltd. The degree of whiteness of a white cloth (non-soiled white cloth) used for the preparation of the soiled cloth and the degree of whiteness of the soiled cloth before washing were measured in advance before washing. Then, the cleaning ratio was calculated according to the equation below and the cleaning properties were evaluated by the following criteria. Then, at the time of washing the soiled cloth, a test was performed in which the soiled cloth and the white cloth were washed together, and the redeposition ratio of the white cloth was calculated according to the equation below, and thus the anti-redeposition properties were evaluated by the following criteria.

$$\text{Cleaning ratio (\%)} = (C - B) / (A - B) \times 100$$

$$\text{Redeposition ratio (\%)} = (A - D) / A \times 100$$

A: Degree of whiteness of the white cloth

B: Degree of whiteness of the soiled cloth before washing

20 C: Degree of whiteness of the soiled cloth after washing

D: Degree of whiteness of the white cloth washed together with the soiled cloth

Cleaning properties:

○: Good cleaning properties (cleaning ratio is 25% or more)

25 ×: Poor cleaning properties (cleaning ratio is less than 25%)

Anti-redeposition properties:

○: Good anti-redeposition properties (redeposition ratio is 5% or

less)

× : Poor anti-redeposition properties (redeposition ratio exceeds 5%)

5 (2) Stickiness of the skin after use

Thirteen women (age of 32 to 45) and seven men (age of 33 to 44) were subjected to the test. Using a basin, 35 mL of the cleaning agent composition for wiping were diluted with about 1 L of warm water with about 40°C (by about 30-fold), and a dry nonwoven fabric of 135 mm ×
10 190 mm was immersed in this liquid, and then was wrung out lightly. This nonwoven fabric impregnated with the cleaning agent composition for wiping was used to wipe anal periphery and vulva, and regarding the stickiness of the skin, points were given as follows.

Two points: when the skin after wiping does not feel sticky.

15 One point: when the skin after wiping feels slightly sticky.

Zero point: when the skin after wiping feels sticky and disagreeable.

The average of the 20 people was obtained and the stickiness after wiping was evaluated by the following criteria.

20 ○: good without stickiness (average of 1.5 points or more)

× : poor with stickiness (average of less than 1.5 points)

(3) Vitality and moisture of the skin after use

Thirteen women (age of 32 to 45) and seven men (age of 33 to 44)
25 were subjected to the test. A nonwoven fabric impregnated with the cleaning agent composition for wiping in the same manner as above item (2) was used to wipe the entire body, and points were given as follows

regarding the moisture of the skin after 15 minutes.

Two points: when it is felt that there is vitality and moisture in the skin and the skin is healthy.

One point: when it is felt that the skin is slightly dry and lacks
5 moisture or vitality to some extent.

Zero point: when it is felt that the skin is dry and lacks moisture or vitality.

The average of the 20 people was obtained and the vitality and the moisture of the skin after wiping were evaluated by the following
10 criteria.

○: good with vitality and moisture (average of 1.5 points or more)

× : poor without vitality and moisture (average of less than 1.5 points)

15 (4) Anti-skin chapping effect

Seven women (age of 32 to 40) having sensitive skin and three men (age of 33 to 37) having sensitive skin were subjected to the test. The inner portion of the upper arm was rubbed lightly several times for wiping so that dirt could be removed twice per day with a nonwoven
20 fabric impregnated with the cleaning agent composition for wiping in the same manner as above item (2). After the operation was repeated every day for two weeks, points were given as follows regarding the state of the skin.

Two points: when it is felt that the skin is not chapped at all.

25 One point: when it is felt that the skin is slightly chapped.

Zero point: when it is felt that the skin is apparently chapped.

The average of the 10 people was obtained and the anti-skin

chapping effect was evaluated by the following criteria.

○: the anti-skin chapping effect is good (average of 1.5 points or more)

× : the anti-skin chapping effect is poor (average of less than 1.5
5 points)

(5) Temporal stability

The cleaning agent composition for wiping was enclosed airtightly in a transparent glass container and preserved at 5°C, 25°C and 40°C for
10 three months. Then, the composition was evaluated with three levels as below by observing the appearance.

○: good stability (no change in the appearance in each of the temperatures)

△: slightly poor stability (some precipitate or sediment occurs or
15 some coloring is caused at any one or more of the temperatures.)

× : poor stability (precipitate or sediment occurs, or separation occurs, or coloring is significant at any one or more of the temperatures.)

Examples 1 to 7

20 The cleaning agent compositions for wiping containing the components in the ratios shown in Table 1 were prepared, and evaluated by the above-described methods. The detail of each component in Table 1 is shown in Table 2. Table 4 shows the results. In Table 4, the parenthesized values in the items "cleaning ratio" and "redemption
25 ratio" show cleaning ratios and redemption ratios, respectively. The parenthesized values in the items "stickiness of the skin after use", "vitality and moisture after use", and "anti-skin chapping effect" show

points in each test.

Table 1

Components		Ex.1	Ex.2	Ex.3	Ex.4	Ex.5	Ex.6	Ex.7
(a)	Amino-modified silicone emulsion (note 1)	0.3 (0.06)	0.5 (0.1)	1 (0.21)	2 (0.42)	0.5 (0.1)	0.3 (0.06)	0.3 (0.06)
	(Amino-modified silicone; wt%)							
(b)	Myristic acid (note 2)	0.2	—	—	—	—	—	—
	Oleic acid (note 3)	—	0.15	0.15	0.15	0.15	0.3	0.15
(c)	48% Potassium hydroxide aqueous solution	0.18	0.15	0.15	0.15	0.15	0.28	0.15
	Polyoxyethylene (20 mol) sorbitan monolaurate (note 4)	0.2	0.3	—	—	0.3	0.3	0.2
	Polyoxyethylene (20 mol) sorbitan monooleate (note 5)	—	—	0.2	0.5	—	—	0.3
(d)	Glycerin	5	5	5	2	5	3	2
	Dipropylene glycol	2	2	2	2	5	3	2
	Polyethylene glycol 1540	2	2	2	2	2	3	2
(e)	Tea extract 1 (note 6)	1 (0.012)	—	0.1 (0.0012)	0.5 (0.006)	—	—	10 (0.12)
	(in terms of dry residue; wt%)							
	Tea extract 2 (note 7)	—	1 (0.011)	—	—	—	—	—
	(in terms of dry residue; wt%)							
	Extract from <i>Houttuynia cordata</i> Thunb. (note 8)	—	—	—	0.2 (0.003)	—	10 (0.15)	—
(a')	Extract from <i>Artemisia princeps</i> Pamp. (note 9)	—	0.5 (0.0055)	—	0.1 (0.0011)	—	—	10 (0.11)
	(in terms of dry residue; wt%)							
	Extract from <i>Phellodendron amurense</i> Rupr. (note 10)	—	—	2 (0.02)	—	—	—	—
(a'')	(in terms of dry residue; wt%)							
	Polymethylsiloxane emulsion (note 11)	—	—	—	—	—	—	—
	(Polymethylsiloxane; wt%)							
Additive	Methylparaben	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Perfume substance (note 12)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Purified water	Balance	Balance	Balance	Balance	Balance	Balance	Balance
Total		100	100	100	100	100	100	100

The unit is wt%.

Table 2

Note No.	Product Name	Manufacturer	Detail
Note 1	XS65-B6413	GE Toshiba Silicones	Emulsion containing 21 wt% of aminoethylaminopropylmethylsiloxane-dimethylsiloxane copolymer
Note 2	NAA-142	NOF Corporation	Fatty acid components: 99 wt% of tetradecanoic acid and 1% of other fatty acids
Note 3	EXTRA OS-85	NOF Corporation	Fatty acid components: 87% of cis- Δ^9 -octadecenoic acid, 4% of cis- Δ^9 , cis-12-octadecadienoic acid, 3% of hexadecanoic acid, 4% of octadecanoic acid, 1% of docosanoic acid, and 1% of other fatty acids (including 91% of cis- Δ^9 -unsaturated fatty acids)
Note 4	Nonion LT-221	NOF Corporation	
Note 5	NOFABLE ESO-8520	NOF Corporation	
Note 6	Tea Extract	Koei Kogyo Co., Ltd	Solvent for extraction: 30% ethanol aqueous solution
Note 7	Red Tea Extract S	Koei Kogyo Co., Ltd	Solvent for extraction: 30% ethanol aqueous solution
Note 8	Juyaku Extract	Koei Kogyo Co., Ltd	Solvent for extraction: 50% 1,3-butylene glycol aqueous solution
Note 9	Artemisia princeps liquid	Ichimaru pharcos Co., Ltd	Solvent for extraction: aqueous solution containing 24% of ethanol and 20% of 1,3-butylene glycol
Note 10	Obaku liquid E	Ichimaru pharcos Co., Ltd	Solvent for extraction: 50% ethanol aqueous solution
Note 11	XS65-B2907	GE Toshiba Silicones	Emulsion containing 34.8 wt% of highly polymerized polymethylsiloxane
Note 12	Fragrance F3-2373	Koei Kogyo Co., Ltd	

Comparative Examples 1 to 5

The cleaning agent compositions for wiping containing the components in the ratios shown in Table 3 were prepared, and evaluated by the above-described methods. Table 4 shows the results.

Table 3

Components		Com. Ex.1	Com. Ex.2	Com. Ex.3	Com. Ex.4	Com. Ex.5
(a)	Amino-modified silicone emulsion (note 1) (Amino-modified silicone; wt%)	—	—	0.5 (0.1)	0.5 (0.1)	0.5 (0.1)
(b)	Myristic acid (note 2)	—	—	—	—	—
	Oleic acid (note 3)	0.15	0.15	—	0.15	0.15
	48% Potassium hydroxide aqueous solution	0.15	0.15	—	0.15	0.15
(c)	Polyoxyethylene (20 mol) sorbitan monolaurate (note 4)	0.3	0.3	0.3	0.02	0.3
	Polyoxyethylene (20 mol) sorbitan monooleate (note 5)	—	—	—	—	—
	Glycerin	5	5	5	5	—
(d)	Dipropylene glycol	2	2	2	2	—
	Polyethylene glycol 1540	2	2	2	2	—
	Tea extract 1 (note 6) (in terms of dry residue; wt%)	—	—	—	—	—
(e)	Tea extract 2 (note 7) (in terms of dry residue; wt%)	1 (0.011)	1 (0.011)	1 (0.011)	1 (0.011)	1 (0.011)
	Extract from Houttuynia cordata Thunb. (note 8) (in terms of dry residue; wt%)	—	—	—	—	—
	Extract from Artemisia princeps Pamp. (note 9) (in terms of dry residue; wt%)	0.5 (0.0055)	0.5 (0.0055)	0.5 (0.0055)	0.5 (0.0055)	0.5 (0.0055)
	Extract from Phellodendron amurense Rupr. (note 10) (in terms of dry residue; wt%)	—	—	—	—	—
	Polymethylsiloxane emulsion (note 11) (Polymethylsiloxane; wt%)	—	0.5 (0.174)	—	—	—
(a')	Methylparaben	0.2	0.2	0.2	0.2	0.2
Additive	Perfume substance (note 12)	0.1	0.1	0.1	0.1	0.1
	Purified water	Balance	Balance	Balance	Balance	Balance
	Total	100	100	100	100	100

The unit is wt%.

Table 4

Evaluation	Examples							Comparative Examples				
	1	2	3	4	5	6	7	1	2	3	4	5
Cleaning ratio (%)	○ (30)	○ (35)	○ (37)	○ (33)	○ (34)	○ (35)	○ (40)	○ (36)	× (23)	× (20)	× (16)	○ (37)
Redeposition ratio(%)	○ (0)	○ (0)	○ (0)	○ (0)	○ (0)	○ (0)	○ (0)	× (10)	○ (3)	○ (0)	○ (0)	○ (0)
Stickiness of skin after use	○ (1.7)	○ (1.8)	○ (1.9)	○ (1.9)	○ (1.8)	○ (1.8)	○ (1.8)	× (1.1)	○ (1.6)	○ (1.5)	○ (1.8)	○ (1.9)
Vitality and moisture after use	○ (1.6)	○ (1.8)	○ (1.8)	○ (1.8)	○ (1.6)	○ (1.9)	○ (1.8)	○ (1.6)	○ (1.6)	○ (1.7)	○ (1.5)	× (1.1)
Anti-skin chapping effect	○ (1.6)	○ (1.8)	○ (1.9)	○ (1.8)	○ (1.7)	○ (1.9)	○ (1.8)	○ (1.5)	○ (1.7)	× (1.3)	○ (1.7)	○ (1.5)
Temporal stability	○	○	○	○	○	○	○	○	×	○	△	×

The results shown in Table 4 make it evident that all of the cleaning agent compositions for wiping of the present invention of Examples 1 to 7 have sufficient cleaning properties, do not cause the skin to be sticky after use, allow the skin to retain sufficient vitality and moisture, and prevent skin chapping. Furthermore, when this composition is used, redeposition of dirt hardly occurs, and the temporal stability of the composition itself is excellent.

On the other hand, the cleaning agent compositions for wiping of Comparative Examples 1 to 5 do not provide sufficient performance. More specifically, the composition of Comparative Example 1 does not contain the component (a), so that the skin becomes sticky after use and the anti-redeposition effect is poor. Comparative Example 2 contains a silicone derivative (a)' that is different from the component (a) of the present invention, instead of the component (a), so that the cleaning ratio is not good and the temporal stability is poor. Comparative Example 3 does not contain the component (b), so that the cleaning properties are not good and the anti-skin chapping effect is insufficient. Comparative Example 4 contains the component (c) in only a small amount, so that the cleaning properties are not good and the temporal stability is insufficient. Comparative Example 5 does not contain the component (d), so that the skin after wiping lacks vitality and moisture and the temporal stability is poor. Thus, when the cleaning agent composition for wiping of the present invention containing the specific components (a), (b), (c) and (d) in a predetermined ratio is used, excellent cleaning effects and good feeling after use can be provided.

Industrial Applicability

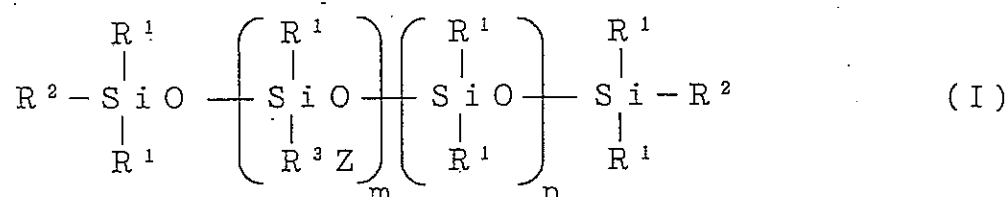
As described above, the cleaning agent composition for wiping of the present invention has sufficient cleaning properties, does not cause the skin to be sticky after use, allows the skin to retain sufficient vitality and moisture, and prevents skin chapping. Furthermore, redeposition of dirt hardly occurs, and the temporal stability of the composition is excellent, and thus long term storage is possible. This composition is generally diluted by about 5 to 100-fold for use, so that it is advantageous with respect to the cost. Therefore, it is suitable as a cleaning agent composition for wiping the skin, especially dirt on clunes, anal periphery, vulva or the like.

CLAIMS

1. A cleaning agent composition for wiping comprising:

(a) 0.01 to 1 wt% of amino-modified silicone expressed by formula

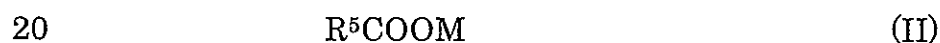
5 (I):



10

wherein R^1 is each independently a methyl group or a phenyl group, and at least one of the R^1 is a methyl group; R^2 is each independently a methyl group, a hydroxyl group or R^3Z , wherein R^3 is each independently an alkylene group having 3 to 6 carbon atoms, Z is
15 an amino group expressed by $-N(R^4)_2$ or $-NR^4(CH_2)_a N(R^4)_2$, wherein R^4 is each independently a hydrogen atom or an alkyl group having 1 to 4 carbon atoms, and a is an integer of 2 to 6; and m and n are each independently an integer of 0 to 20000, and $m+n = 30$ to 20000,

(b) 0.05 to 2 wt% of a fatty acid soap expressed by formula (II):



wherein R^5COO is a linear or branched fatty acid residue having 8 to 24 carbon atoms; and M is an alkali metal atom,

(c) 0.05 to 2 wt% of a nonionic surfactant of polyoxyethylene sorbitan ester, and

25 (d) 1 to 20 wt% of water-soluble polyhydric alcohol.

2. The cleaning agent composition for wiping of claim 1, further

comprising: (e) at least one extract selected from the group consisting of an extract from leaves of tea (*C. sinensis* L.) belonging to the *Camellia* genus in the *Camellia* family, an extract from a plant of *Houttuynia* Thunb belonging to the *Houttuynia* genus in the *Houttuynia* family, an
5 extract from a plant of *Artemisia* L. belonging to the *Artemisia* genus in the *Compositae* family, and an extract from a plant of *Phellodendron* Rupr. belonging to the *Phellodendron* genus in the *Rutaceae* family in an amount of 0.00005 to 1 wt% in terms of a weight of dry residue.