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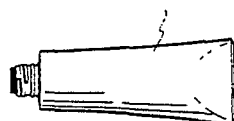
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Detergent composition.

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A detergent composition contained in a tube or a pumping container, which is a gelatinous or pasty detergent composition including homogeneous or dispersed mixture of nonionic surface active agent having fluidity at room temperature and at least one member selected from a group consisting of organic sulfonic acid salts and organic sulfuric ester salts. The detergent composition contained in a container is involuminous, easy to handle, stable in quality against a long-term-storage and satisfactory in detergency.

FIG. 1



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DETERGENT COMPOSITION

The present invention relates to a gelatinous or pasty detergent composition contained in a container.

Hitherto, there are used various detergents in various forms such as powder, liquid and the like.

A powdery detergent is usually bagged or boxed, but it causes problems in handling due to its low apparent specific gravity and it makes transportation cost comparatively high.

5 With respect to a liquid detergent on the other hand, the detergent components essentially include a builder because of functional reason and the builder is in a solid form. Accordingly the liquid detergent has to be in a form of aqueous solution in which the concentration of effective components is about 50 % or less (% means % by weight in this specification unless otherwise specified) so that a uniform composition is obtained, and due to such a restriction there are problems in handling so far.

10 In the circumstances, there have been under development a gelatinous or pasty detergent composition which has detergent component concentration higher than that of a liquid detergent composition and accordingly is less voluminous and easier to handle than a liquid detergent, and which is a detergent composition contained in a container suitable for washing clothing or the like, but none of such detergent compositions have yet been put into practical use except for that of the present invention.

15 An object of the present invention is to solve the above-mentioned problem and to provide a detergent composition which is unvoluminous and easy to handle and which has a less tendency to change in quality with a passage of time.

In accordance with the present invention, there is provided a detergent composition contained in a tube or a pumping container, which is a gelatinous or pasty detergent composition including homogeneous or
20 dispersed mixture of nonionic surface active agent having fluidity at room temperature and at least one member selected from a group consisting of organic sulfonic acid salts and organic sulfuric ester salts.

Fig. 1 is a plan view of a tube used in the present invention;

Fig. 2 is a plan view of another tube used in the present invention; and

Fig. 3 is a sectional view of a pumping container used in the present invention.

25 A nonionic surface active agent having fluidity at room temperature used in the present invention is a nonionic surface active agent preferably having a viscosity of about 50 to about 2000 poise at room temperature (15° to 25°C). As the above agent, any fluidic nonionic surface active agent in accordance with the purposed application and the like of the detergent composition can be selected and used without any limitation as far as it is commonly used for the purpose of emulsification, dispersion, osmosis, washing,
30 solubilization or the like. Particularly, preferable examples thereof are, for instance, adduct of alkylene oxide such as ethylene oxide, propylene oxide and butylene oxide to active hydrogen compound having 8 to 20 average carbon atoms such as alcohol, alkylphenol, fatty acid and alkylamine; ester of sorbitan, sucrose or the like with fatty acid having 8 or more carbon atoms; and the like. With respect to the above-mentioned nonionic surface active agent, any one kind may be used alone or alternatively two or more kinds may be
35 used together.

Preferable content of the nonionic surface active agent in the detergent composition is 10 to 60 % and more preferably 25 to 45 %. The content lower than 10 % increases the apparent viscosity of gelatinized product and consequently tends to make it difficult to squeeze the detergent composition out of a tube or a pumping container. On the other hand the content higher than 60 % tends to cause a separation at high
40 temperatures.

The organic sulfonic acid salt and/or organic sulfuric ester salt is a component used as a main component of the detergent agent. As the above salt, any organic sulfonic acid salt and/or organic sulfuric ester salt in accordance with the purposed application and the like of the detergent composition can be selected and used without any limitation as far as it is commonly used in a detergent composition for
45 clothes or the like. Particularly preferable examples thereof are, for instance, organic sulfonic acid salt such as alkylbenzenesulfonic acid salt, dialkylbenzenesulfonic acid salt, naphthalenesulfonic acid salt and α -olefinesulfonic acid salt; organic sulfuric ester salt such as sulfuric ester salt of alcohol and sulfuric ester salt of adduct of ethylene oxide to alcohol; and the like. With respect to the above-mentioned salt, any one kind may be used alone or alternatively two or more kinds can be used together. A use of organic sulfonic
50 acid salt provides an advantageous feature that there can be obtained a detergent composition having improved detergency while a use of organic sulfuric ester salt provides another advantageous feature that there can be obtained a well biodegradable and highly safe detergent composition.

Preferable content of the organic sulfonic acid salt and/or the organic sulfuric ester salt in the detergent composition is 10 to 60 % and more preferably 25 to 45 %. The content lower than 10 % tends to cause insufficient detergency effect. On the other hand the content higher than 60 % tends to provide excessively

high viscosity of gelatinized product and consequently it tends to be difficult to obtain soft gel.

In addition to the nonionic surface active agent and the organic sulfonic acid salt and/or the organic sulfuric ester salt above-mentioned, the detergent composition contained in a container in accordance with the present invention may optionally include as occasion demands other additives commonly used as
 5 additives for a detergent composition such as surface active agent other than the nonionic surface active agent, the organic sulfonic acid salt or the organic sulfuric ester salt (hereinafter referred to as other surface active agent); builder; enzymes; fluorescent material; peroxide; perfume; solvent; and the like.

Examples of the above-mentioned other surface active agent are, for instance, soaps such as sodium oleate, sodium laurate, potassium oleate and sodium stearate; amphoteric surface active agent such as
 10 AMOGEN K (alkylbetaine amphoteric surface active agent available from DAI-ICHI KOGYO SEIYAKU CO., LTD.); and the like. Preferable content thereof in the detergent composition is normally 15 % or lower.

Examples of the builder are, for instance, sodium tripolyphosphate, zeolite, soda ash, sodium polyacrylate and the like. Preferable content thereof in the detergent composition is normally 5 to 50 %.

With respect to the enzymes, enzymes which exhibit their inherent enzyme activities in washing
 15 process are preferably used. Examples thereof being classified by enzyme reactivity are, for instance, hydrolases, hydrases, oxidoreductases, desmolases, transferases, isomerases and the like and any of them can be employed in the present invention. Hydrases are particularly preferable and detailed examples thereof are protease, esterase, carbohydrase and nuclease. Preferable amount of enzymes in the detergent composition is normally 0.5 to 2.0 %.

Examples of the fluorescent material are, for instance, 2-(stilphenyl) naphthothiazole derivative, 4,4'-bis-
 20 (triazole-2-yl) stilbene derivative, bis(triazinylamino) stilbene disulfonic acid derivative, 4,4'-bis(2-sulfostyryl) biphenyl salt, 4,4'-bis(4-chloro-3-sulfostyryl) biphenyl salt and the like. Preferable amount of the fluorescent material in the detergent composition is normally 1.0 to 4.0 %.

Examples of the peroxide are, for instance, sodium percarbonate and the like. Preferable amount of the
 25 peroxide in the detergent composition is normally 1.0 to 4.0 %.

Further components such as perfume, coloring agent and the like may also be included in the detergent composition and preferable amount thereof in the detergent composition is normally 1.0 to 4.0 %.

With respect to the solvent, for example there can be used, as the occasion may demand, water, glyceline, ethylene glycol, diethylene glycol monobutyl ether and the like.

30 The detergent composition to be contained in a tube or a pumping container in accordance with the present invention is a gelatinous or pasty composition including homogeneous or dispersed mixture of nonionic surface active agent having fluidity at room temperature and at least one member selected from a group consisting of organic sulfonic acid salts and organic sulfuric ester salts.

The term homogeneous or dispersed mixture used in this specification means a mixture wherein all
 35 components are uniformly mixed including a mixture wherein all components are homogeneously dissolved or a mixture wherein all components are uniformly dispersed.

The above-mentioned detergent composition used in the present invention has a gelatinous or pasty form. In the detergent composition, all components may be homogeneously dissolved or may be uniformly dispersed. Particularly, a composition wherein all components are homogeneously dissolved is preferable
 40 because it does not easily cause a separation.

With respect to a tube or a pumping container to be filled with the detergent composition, there are no particular limitations for material, structure or configuration thereof and there can be used those described below for example.

Material of the tube may be plastics, metal or the like and there can be used a laminated tube having a
 45 wall of plural-layer structure as well as a tube having a wall of single-layer structure. The tube may have a cylindrical configuration having a round or an elliptical cross section for example, and the tube may be equipped with a cap such as a screw cap or unscrew cap. For example, there are preferably used the tube 1 and the tube 2 respectively illustrated in Fig. 1 (plan view) and Fig. 2 (plan view).

Preferable material of the pumping container may be synthetic resin including polyolefine such as
 50 polyethylene or polypropylene; polyethylene terephthalate; and the like. However, under certain circumstances there may also be employed metal or paper suitably processed to prevent the gelatinous or pasty composition from permeating. With respect to the structure and the configuration, the pumping container preferably has a tubular shape like one employed for tooth paste container or the like, for example those disclosed in Japanese Unexamined Utility Model Publications No. 34641/1979, No. 38783/1981, No.
 55 46572/1981, No. 100378/1981, No. 121677/1981, No. 44041/1982, No. 74168/1982, No. 164079/1982, Japanese Unexamined Patent Publications No. 68367/1982, No. 68368/1982 and the like. For example, the pumping container 3 illustrated in Fig. 3 is preferably used.

Next, there is explained a process for preparing the detergent composition to be contained in a

container in accordance with the present invention.

There are no particular limitations in preparing process of the above-mentioned detergent composition. A preferable preparing process involves a step of neutralization of organic sulfonic acid and/or organic sulfuric ester in the presence of nonionic surface active agent (in this neutralizing step the nonionic surface active agent exhibits liquid behavior), and then there is prepared a homogeneous or dispersed mixture of nonionic surface active agent having fluidity at room temperature and at least one member selected from a group consisting of organic sulfonic acid salts and organic sulfuric ester salts. Thereafter, other optional components are added as occasion demands in accordance with a common procedure to the obtained mixture. This process is preferable because a desired gelatinous or pasty composition can be easily obtained.

Examples of the above-mentioned organic sulfonic acid or organic sulfuric ester are acid components which form the previously-mentioned organic sulfonic acid salt or organic sulfuric ester salt.

Typical examples of the neutralizer used in the above-mentioned neutralizing step are caustic soda, caustic potash, lithium hydroxide, ammonia, monoethanolamine, triethanolamine and the like.

Next there is explained a method of filling a tube or a pumping container with the detergent composition obtained in the above-mentioned manner.

There are no particular limitations in filling a tube with the detergent composition. For example, there can be employed a method like a common and known method of filling a tube with tooth paste, wherein the gelatinous or pasty detergent composition is put into a filling device comprising a cylinder of a certain capacity, then the composition is introduced into the tube through the unsealed bottom end thereof, and finally the tube bottom end is sealed in accordance with a certain sealing method.

Also, there are no particular limitations in filling a pumping container with the detergent composition. For example, there can be employed a method like a common and known method of filling a pumping container with tooth paste, wherein the gelatinous or pasty detergent composition is put into a filling device comprising a cylinder of a certain capacity, then the composition is introduced into the pumping container through the bottom opening thereof, and finally the container bottom is sealed by means of a certain cover or plug.

The detergent composition contained in a container in accordance with the present invention is advantageous because it is unvoluminous and easy to handle and because it does not tend to become dry or to cause deterioration of its detergency even in case that it has been stored for a long period. Therefore, the detergent composition of the present invention is especially suitable for application as a pocket type detergent, a detergent for washing small clothes in a bath room or at a washstand, a detergent for partial washing and the like.

The present invention is more specifically described and explained by means of the following Examples. However, it is to be understood that the present invention is not limited to the Examples, and various changes and modifications may be made in the present invention without departing from the spirit and scope thereof.

Examples 1 to 3

Each of examples having respective formulations shown in Table 1 was prepared in the following manner. Nonionic surface active agent was put into a mixing vessel, then linear alkylbenzene sulfonic acid having linear alkyl group having 8 to 13 carbon atoms and/or linear alkylsulfuric ester having linear alkyl group having 12 to 13 carbon atoms were added thereto, and a uniform mixture was prepared by mixing sufficiently and concurrent heating to a temperature of 65° to 70° C. Thereafter, solid caustic soda (in flaky shape and of 99 % or higher purity) in an amount counterbalancing the acid number of the mixture was gradually added for neutralization of the mixture. When pH of the mixture was controlled to 10±0.5, there was obtained a liquid, turbid in white, uniform mixture containing surface active agent. Thereafter, other additive components than those above-mentioned were added thereto in order indicated in the Table 1, then the product was collected from the vessel after sufficient uniform mixing. The collected product was naturally cooled to a temperature of 25° to 30° C and there was obtained a long-term-stable detergent composition in which all components were uniformly dispersed.

Table 1

5	Component	Parts by weight		
		Ex. 1	Ex. 2	Ex. 3
10	Nonionic surface active agent ^{*1}	35	20	30
15	Linear alkylbenzene sulfonic acid sodium salt ^{*2}	10	20	5
20	Linear alkylsulfuric ester sodium salt ^{*3}	5	-	-
	1 Soap ^{*4}	3.0	5.0	5.0
25	2 Sodium carbonate	20	22.0	22.0
	3 Sodium silicate	7	8	8
30	4 Sodium aluminosilicate	10	15	15
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5	Component	Parts by weight		
		Ex. 1	Ex. 2	Ex. 3
10	5 Sodium sulfate	6	6	6
	6 Glyceline	-	-	5
15	7 Water	4	4	4

- 20 (Notes) *1 : Polyoxyethylene nonylphenyl ether
(8.6 mol EO addition product)
- *2 : Mixture having 8 to 13 carbon atoms in
25 linear alkyl group
- *3 : Mixture having 12 to 13 carbon atoms in
linear alkyl group
- 30 *4 : Sodium salt of coconut oil fatty acid

1 to 7 indicate the order of addition.

35 Apparent specific gravity, solubility, viscosity, stability in appearance, detergency and squeezability
(fluidity and controllability in squeezing operation out of a tube) of the obtained pasty detergent composition
were evaluated respectively in accordance with the following methods. The obtained results are shown in
Table 3.

40 (Apparent specific gravity)

Weight per fixed volume is measured with a particular container specified in JIS K 3362.

45 (Solubility)

50 Several washing liquid mixture having detergent concentration of 0.133 % are prepared using 30 l of
water (water from city water supply) at 5 °C, 10 °C, 15 °C or 20 °C and 40 g of the detergent composition in
electric washing machine (Hitachi, double sink type washing machine, model PS-753, available from Hitachi
Ltd.). Into the washing liquid 3 kg of knit underwear is immersed, then the washing machine is operated for
10 minutes in the mode of the standard water stream. After the operation, alkalinity of the washing liquid
mixture (free alkalinity in accordance with ISO international standard 4314-1977) is measured and solubility
ratio defined by the following formula is calculated.

55

$$\text{Solubility ratio (\%)} = \frac{\text{Alkalinity of each washing liquid mixture using water at respective specified temperature after 10 minutes washing operation}}{\text{Alkalinity of completely dissolved reference washing liquid mixture having detergent concentration of 0.133 \%}} \times 100$$

15

(Viscosity)

Measurement is conducted using HELIPATH viscosity meter suitable for viscosity measurement for
20 gelatinous products such as tooth paste, gelatinous shampoo and the like.

(Stability in appearance)

25 200 ml of each gelatinous detergent composition contained in a tube (a tube 1 shown in Fig. 1 or a tube 2 shown in Fig. 2 each having internal volume of 200 ml and outlet diameter of 12.9 mm) is stored for 3 months at an atmospheric temperature between -5°C and 40°C, and thereafter occurrence of separation is inspected and evaluated in accordance with the following criteria.

- Gr. A: No change observed
- 30 Gr. B: Separation observed to some extent
- Gr. C: Separation observed

(Detergency)

35

1 l of aqueous detergent solution having concentration of 0.1 % is prepared by adding the detergent composition to water.

Separately, 12 pieces of artificially dirtied cloths are prepared in advance in a manner wherein sample cloths (cotton shirtings and No. 60 broad cloth (cotton/polyester = 65/35) each having a size of 10 cm x 10
40 cm) are uniformly mixed with oil component comprising cotton seed oil: 60 %, cholesterol: 10 %, palmitic acid: 10 %, liquid paraffin: 5 % and solid paraffin: 5 % and with carbon black (THE JAPAN OIL CHEMISTS' SOCIETY) to make the sample cloths dirty.

12 pieces of the artificially dirtied cloths are put into the above-mentioned aqueous detergent solution (1 l) and additionally appropriate numbers of clean cloths having the same size are also put therein so that
45 bath ratio becomes 1/60, then washing operation is conducted using Terg-O-Tometer at 100 rpm. The duration of the washing operation is 10 minutes, water hardness is 8°DH, water temperature is 15°C and the washing operation is followed by a 25 minute long rinsing operation using water from city water supply.

Reflectances of sample cloths are measured by self-recording colorimeter (available from Shimadzu Corporation) respectively before mixing with dirt, after mixing with dirt before washing and after washing.
50 Based on the measured reflectances, each detergent efficiency defined by the following formula is calculated and subsequently an average detergent efficiency of 12 pieces of sample cloths is calculated.

55

Detergent efficiency (%)

$$= \frac{\text{Reflectance after washing} - \text{Reflectance just before washing}}{\text{Reflectance before mixing with dirt}} \times 100$$

(Squeezability)

100 sets of the tube contained detergent composition are prepared using the tube 1 shown in Fig. 1 or the tube 2 shown in Fig. 2. Each of 10 woman evaluators opens a tube outlet, and using the thumb and the fifth finger of her left hand she presses the middle portion of the tube to squeeze the gelatinous detergent composition out of the tube outlet. Each of 10 evaluators tests 10 tubes and evaluates the squeezability in accordance with the following criteria.

- Gr. A: Squeezable by weak force
- Gr. B: Slightly hard
- Gr. C: Too hard to squeeze
- Gr. D: Excessively soft and discharging amount is uncontrollable.

Comparative Example 1

A comparative composition having the formulation shown in Table 2 was prepared in the following manner. Nonionic surface active agent was put into a mixing vessel, then sodium salt of alkyl sulfuric ester was added thereto, and a uniformly dispersed mixture was prepared by sufficient mixing and concurrent heating to a temperature of 65° to 70° C. Thereafter, other additive components were added in order indicated in the Table 2 and concurrently mixing and dispersion are performed by mixing, then the product was collected from the vessel. The collected product was naturally cooled to a temperature of 25° to 30° C and there was obtained a gelatinous detergent composition which was similar to the compositions prepared in Examples 1 to 3 as far as its appearance was concerned.

The same measurements as employed in Examples 1 to 3 were conducted to evaluate the properties of the obtained detergent composition. The measurement results are shown in Table 3.

Table 2

5	Components	Parts by weight
		Com. Ex. 1
10	Nonionic surface active agent ^{*5}	70
	Alkyl sulfuric ester salt ^{*6}	5
	1 Sodium carbonate	10
	2 Sodium silicate	2
15	3 Sodium alminosilicate	10
	4 Water	3

20 (Notes) *5 : NOIGEN ET 135 (name of product available
from DAI-ICHI KOGYO SEIYAKU CO., LTD.)

25 *6 : MONOGEN Y-500 (name of product available
from DAI-ICHI KOGYO SEIYAKU CO., LTD.)

1 to 4 indicate the order of addition.

Comparative Example 2

35 A powdery detergent composition was prepared by spray-drying the detergent composition prepared in Example 1.

40 With respect to the powdery detergent composition, average particle diameter was measured and apparent specific gravity, solubility and detergency were measured in the same manner as employed in Example 1. The measurement results are shown in Table 3.

Comparative Example 3

45 100 parts by weight of the powdery detergent composition prepared in Comparative Example 2 was further subjected to compaction into a circular column shape having a diameter of 3 mm using Extruder (available from Fuji Paudaru Kabushiki Kaisha). To 100 parts by weight of the compacted powdery detergent composition there was added 10 parts by weight of aluminosilicate salt having an average particle diameter of 2.7 μ m, and concurrently crushing and granulation were conducted using Fitzmill (available from Fitzpatrick (U.S.A.)) equipped with a screen having sieve opening size of 1.5 mm.

50 With respect to the obtained detergent composition, average particle diameter was measured and apparent specific gravity, solubility and detergency were measured in the same manner as employed in Example 1. The measurement results are shown in Table 3.

55

Table 3

Ex.No.	Apparent Sp. Gr (g/ml)	Ave. Particle dia. (μ m)	Solubility (%)		Viscosity	
			Water temp. ($^{\circ}$ C)		Temp. ($^{\circ}$ C)	(Poise)
Ex. 1	1.21	-	5	100	-5	812000
			10	100	0	710000
			15	100	10	495000
			20	100	20	235000
					30	200000
					40	160000
Ex. 2	1.25	-	5	100	-5	51000
			10	100	0	46000
			15	100	10	27000
			20	100	20	23500
					30	18000
					40	16000

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Ex.No.	Apparent Sp. Gr (g/ml)	Ave. Particle dia. (μ m)	Solubility (%)		Viscosity	
			Water temp. (°C)		Temp. (°C)	(Poise)
Ex. 3	1.23	-	5	100	-5	36000
			10	100	0	28000
			15	100	10	20000
			20	100	20	16000
					30	13500
Com. Ex. 1	1.21	-	5	100	-5	498000
			10	100	0	366000
			15	100	10	307000
			20	100	20	234000
					30	150000
					40	132000

- continued -

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Ex.No.	Apparent Sp. Gr (g/ml)	Ave. Particle dia. (μ m)	Solubility (%)		Viscosity	
			Water temp. ($^{\circ}$ C)		Temp. ($^{\circ}$ C)	(Poise)
Com. Ex. 2	0.30	450	5	100		unmeasurable
			10	100		
			15	100		
			20	100		
Com. Ex. 3	0.71	370	5	85		unmeasurable
			10	89		
			15	98		
			20	100		

- continued -

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Ex. No.	Stability in Appearance		Detergent Efficiency (%)	Squeezability		
	Temp. (°C)	Gr.		Temp. (°C)	Just after Filling	3 Months Later
Ex. 1	-5	Gr. A	83	-5	100	100
	0	Gr. A		0	100	100
	10	Gr. A		10	100	100
	20	Gr. A		20	100	100
	30	Gr. A		30	100	100
	40	Gr. A		40	100	100
Ex. 2	-5	Gr. A	80	-5	100	100
	0	Gr. A		0	100	100
	10	Gr. A		10	100	100
	20	Gr. A		20	100	100
	30	Gr. A		30	100	100
	40	Gr. A		40	100	100

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Ex.No.	Stability in Appearance		Detergent Efficiency (%)	Squeezability			Temp. (°C)	Just after Filling*7	3 Months Later*7
	Temp. (°C)								
Ex. 3	-5	Gr. A		-5	100		100		100
	0	Gr. A		0	100		100		100
	10	Gr. A	81	10	100		100		100
	20	Gr. A		20	100		100		100
	30	Gr. A		30	100		100		100
	40	Gr. A		40	100		100		100
Com. Ex.1	-5	Gr. A		-5	20		20		20
	0	Gr. A		0	10		10		10
	10	Gr. A	78	10	0		0		0
	20	Gr.B(separated into 2 phases after 15 days passed)		20	0		0		0
	30	Gr.C(separated into 2 phases after 100 passed)		30	0		0		0
	40	Gr.C(separated into 2 phases after 70 passed)		40	0		0		0
- continued -									

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Ex.No.	Stability in Appearance	Detergent	Squeezability	
	Temp. (°C)	Efficiency (%)	Temp. (°C)	Just after Filling 3 Months Later *7
Com. Ex.2	Tube could not be filled therewith.	76		
Com. Ex. 3	Tube could not be filled therewith.	74		

(Note)

*7 : Number of Gr. A in 100 samples

As demonstrated in Table 3, the detergent composition contained in a container in accordance with the present invention was unvoluminous and excellent in solubility, detergency and stability, and has desirable viscosity and an advantageous feature that squeezing operation out of a tube or a pumping container is easily carried out.

As described hereinbefore, the detergent composition contained in a container in accordance with the present invention is, compared with prior art detergent composition, unvoluminous, easy to handle, stable in quality against a long-term-storage and satisfactory in detergency.

Claims

1. A detergent composition contained in a container which is contained in a tube or a pumping container, said composition being a gelatinous or pasty detergent composition including homogeneous or dispersed mixture of nonionic surface active agent having fluidity at room temperature and at least one member selected from a group consisting of organic sulfonic acid salts and organic sulfuric ester salts.

2. The detergent composition of Claim 1, wherein said homogeneous or dispersed mixture of nonionic surface active agent having fluidity at room temperature and at least one member selected from a group consisting of organic sulfonic acid salts and organic sulfuric ester salts is prepared by a process including a step of neutralization of at least one member selected from a group consisting of organic sulfonic acids and organic sulfuric esters in the presence of nonionic surface active agent.

3. The detergent composition of Claim 1, which further includes at least one member selected from a group consisting of surface active agent other than said nonionic surface active agent, said organic sulfonic acid salt or said organic sulfuric ester salt; builder; enzymes; fluorescent material; peroxide; perfume; and solvent.

FIG. 1

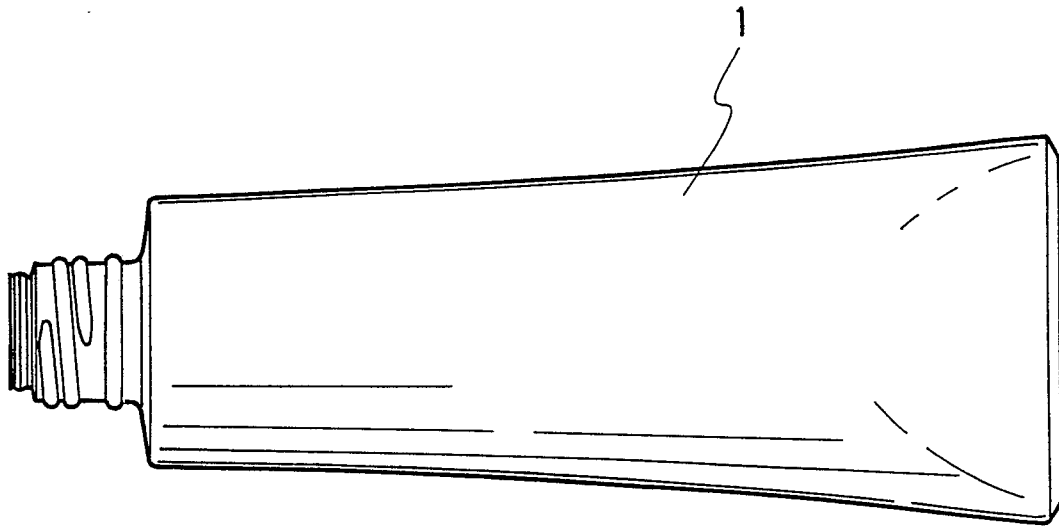


FIG. 2

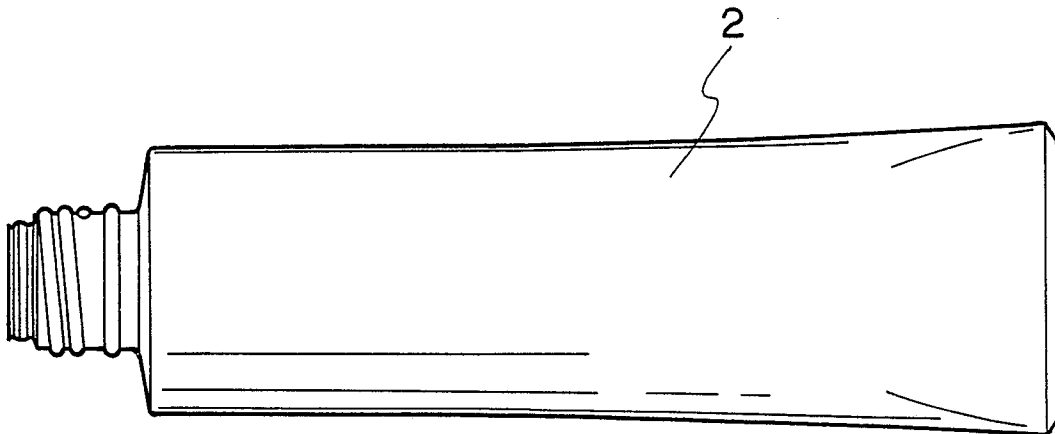


FIG.3

