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CLEANSING COMPOSITION

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ABSTRACT OF THE DISCLOSURE

An aqueous based cleansing composition containing amonium hydroxide; an inorganic water soluble builder salt; an admixture of potassium chloride and potassium carbonate; an aqueous saturated soap solution of alkali metal salts of saturated fatty acids containing from 8 to 18 carbon atoms; and an organic solubilizing agent. The compositions are especially useful for cleaning glass surfaces.

BACKGROUND OF THE INVENTION

The invention relates to aqueous cleansing compositions for household and industrial usage and processes for preparing the same. More specifically, the invention relates to aqueous soap compositions which substantially remove "rain spots" on window panes or glass surfaces, when applied to remove dirt.

Heretofore, many attempts have been made to remove dirt and other extraneous matter from window surfaces by spreading or spraying solutions containing soap, in small quantities, over the surface; briskly rubbing the solution over the surface; removing the solution with clean cotton cloth or lint-free paper towels; and rubbing the surface dry with cloth or paper towels. Even though many of these solutions containing soap loosened dirt and other extraneous matter, all too often the glass surface was smeared and streaked with dried insolubilized soap and presented an unclean appearance.

When soap solutions were formulated in a manner to preclude formation of insolubilized sediment, cleaned window panes were nonetheless characterized by the unclean appearance of "rain spots" which were formed from rain drops splashing upon dirt covered windows. Prolonged and vigorious rubbing failed to remove this condition.

Accordingly, the desideratum in the window cleaning art was to devise a soap solution which removed dirt and other extraneous matter; left no perceptible insolubilized sediment; and had the potential to substantially eliminate objectionable "rain spots."

The present invention differs from prior art soap solutions due to its capacity to clean windows without leaving insolubilized sediment, and its simultaneous capacity for removing "rain spots."

Thus, the general object of the invention is to provide an aqueous based soap solution having the dual capacity of cleaning window panes without leaving remnants of soap smears and "rain spots."

Another object of the invention is to provide a soap solution which is useful for cleaning aluminum surfaces with minimum scrubbing effort.

Other objects of the invention will become apparent from the description and examples hereinafter appearing.

DETAILED DESCRIPTION OF THE INVENTION

Applicant's method for formulating the novel soap solution entails admixing (I) about 90 to 98% by weight of water, with between (II) 2 to 10% by weight of a mixture consisting essentially of (a) from about 35 to 55% by weight of ammonium hydroxide; (b) from about 0.5 to 3.0% by weight of a water soluble, inorganic builder salt selected from the group consisting of sodium monobasic phosphate, sodium dibasic phosphate, trisodium phosphate and mixtures thereof; (c) from about 7 to 15% by weight, of equal weight proportions of potassium chloride and potassium carbonate: (d) from about 0.5 to 3.0% by weight of a saturated aqueous solution of alkali metal salts of saturated fatty acids containing from 8 to 18 carbon atoms; and (e) from about 35 to 55% by weight of an organic solubilizing agent selected from the group consisting of methyl alcohol, ethyl alcohol and mixtures thereof.

The particular order in which the ingredients are added together prior to mixing is not critical; moreover, the mixing is effected at ambient temperatures, and requires no heating to effect solubilization of the ingredients.

Exemplary of, but not limited to the water soluble soaps which are applicable for use in the invention are sodium caprate, sodium laurate, sodium myristate, sodium and potassium plamitate, potassium oleate, sodium and potassium stearate, sodium and potassium salts of tallow fatty acids, sodium and potassium salts of coconut oil fatty acids, and the like.

It is critical to the invention that ingredient (c), the combination of potassium chloride and potassium carbonate, be included in the cleansing admixture. Without this ingredient combination, window panes are difficultly washable and require prolonged and vigorous rubbing with cloth or paper towels. Further still, the absence of this ingredient combination, window panes are difficulty intact on the glass surface, subsequent to the cleaning step.

While the preferred percent by weight of the ingredients of the cleansing composition is adequately set forth above, the most preferred percent by weight of the ingredients is set forth in the example following.

EXAMPLE I

Cleansing composition:	Percent by weight
Ammonium hydroxide	44.7
Disodium phosphate	1.8
Potassium chloride	3.5
Potassium carbonate	3.5
Sodium stearate (saturated solution)	1.8
Methanol	44.7
	100.0

Approximately two parts by weight of the thoroughly mixed formulation is mixed with about 98 parts by weight of water. The admixture is placed into a container and sprayed over a glass surface which is covered with dirt and heavily "rain spotted." Upon minimum brisk rubbing with a dampened clean cotton cloth, the composition loosened all dirt and other extraneous matter. After the surface was dry no evidence of "rain spots" were visible.

EXAMPLE II

Same as Example I, except that the combination ingredients of potassium chloride and potassium carbonate were omitted. When the admixture is placed in a container and sprayed over a glass surface which is covered with dirt and heavily "rain spotted," minimum or slight brisk rubbing with a dampened clean cotton cloth loosened some dirt and other extraneous matter, however, after the surface was dry, a high proportion of the orginial "rain spots" remained intact.

EXAMPLE III

Same as Example I, except that the ingredient of potassium chloride is omitted, and the amount of potassium carbonate is doubled. When the admixture is placed in a container and sprayed over a glass surface which is covered with dirt and heavily "rain spotted," minimum

or slight brisk rubbing with a dampened clean cotton cloth loosened some dirt and other extraneous matter, however, after the surface was dry, a high portion of the original "rain spots" remain intact.

EXAMPLE IV

Same as Example I, except that ingredient of potassium carbonate is omitted, and amount of potassium chloride is doubled. When the admixture is placed in a container and sprayed over a glass surface which is covered with dirt and heavily "rain spotted," minimum or slight brisk rubbing with a dampened clean cotton cloth loosened some dirt and other extraneous matter, however, after the surface was dry a high portion of the original "rain spots" remained intact.

The composition of Example I is similarly applied to aluminum surfaces to effect cleansing of said surface.

While the invention has been described by reference to specific examples, it will be understood that the inventive concept is not limited thereto, and that many variations may be practiced without departing from the spirit and scope of the inventive concept.

Thus the cleansing composition may also be safely applied to clean substrates such as aluminum, brass, silver, plastics, leather, painted automobile surfaces, and finished wood surfaces.

What is claimed is:

1. A novel aqueous cleansing composition comprising an admixture of about, (I) 90 to 98% by weight of water and about (II) 2 to 10% by weight of a mixture consisting essentially of: (a) from about 35 to 55% by weight of ammonium hydroxide; (b) from about 0.5 to 3.0% by weight of a water soluble, inorganic, builder salt selected from the group consisting of sodium monobasic phosphate sodium dibasic phosphate, trisodium phosphate and mixtures thereof; (c) from about 7 to 15% by weight, of equal weight proportions of potassium chloride and potassium carbonate; (d) from about 0.5 to 3.0% by weight of a saturated aqueous solution of alkali metal salts of saturated fatty acids containing from 8 to 18 carbon atoms; and (e) from about 35 to 55% by weight of an organic solubilizing agent selected from the group consisting of methyl alcohol, ethyl alcohol and mixtures thereof.

2. The composition of claim **1**, wherein the inorganic builder salt (b) is sodium dibasic phosphate.

3. The composition of claim **1**, wherein the (d) alkali metal salt of saturated fatty acid is sodium stearate.

4. The composition of claim **1**, wherein the (d) alkali metal salt of saturated fatty acid is potassium stearate.

5. The composition of claim **1**, wherein the (d) alkali metal salt of saturated fatty acid is sodium palmitate.

6. The composition of claim **1**, wherein the (d) alkali metal salt of saturated fatty acid is potassium palmitate.

7. The composition of claim **1**, wherein the (e) solubilizing agent is methyl alcohol.

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