

[54] **COSMETIC CLEANSING PREPARATION**

3,087,920 4/1963 Suzumura et al. 260/91.3 VA

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[57] **ABSTRACT**

[51] **Int. Cl.**..... C11d 9/26, B08b 7/00

A cleansing composition comprising a soap or detergent base in which substantially completely hydrolyzed water-soluble polyvinyl alcohol particles are uniformly dispersed therein to form a composition which imparts a mild abrasive action found especially useful in cleansing the skin.

[58] **Field of Search** 252/122, 92, 134, 130, 252/132, DIG. 2; 260/91.3 VA, 91.3 R; 134/7; 51/310, 313, 298, 295; 15/320; 424/73

[56] **References Cited**

UNITED STATES PATENTS

4 Claims, No Drawings

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COSMETIC CLEANSING PREPARATION

BACKGROUND OF THE INVENTION

Cleansing compositions in the form of blocks, tablets or powders which contain various abrasive materials have been used in the past. The abradant material is added to the composition to enhance the effectiveness in the removal of foreign matter from the surface being cleaned.

Compositions found useful in accomplishing this cleaning purpose have been various abrasive materials used alone or with some additional inert filler material in conjunction with a soap or detergent base. The incorporation of various abradants into soap and detergents are well known as illustrated by such early patents as U.S. Pat. Nos. 11,097 and 173,136 in which sawdust was used. More recently other finely-divided water-insoluble materials, such as silica, feldspar, pumice, keiselguhr, emery or carborundum have been used to produce the abrasive action desired. Synthetic water-insoluble polymeric materials have also been incorporated as abradants into some detergent compositions.

The inorganic, water-insoluble materials which are natural products often vary in quality and, therefore, do not yield uniform results when used. Although the synthetically formed abradants heretofore known may be formed of uniform consistency, they, like their natural counterparts, are normally harsh abradants even when in fine particle form. Also, all of the water-insoluble abradants when used leave residue particles in the wash basin, drains, etc., which are hard to clean out and tend to clog the drain system. Furthermore, the strong abrasive action formed by these water insoluble materials are normally too harsh for cosmetic cleansing of such tender surfaces as the human skin.

SUMMARY OF THE INVENTION

It has now been surprisingly found that cleansing compositions which have mild but effective abrasive action can be formed by utilizing certain water-soluble material.

Briefly, the present invention comprises cleansing compositions in the form of bars, tablets, or powders comprising water-soluble polyvinyl alcohol granules of uniform or varying particle size in standard or superfatted soap bases or detergent bases. When cleansing compositions of this nature are used, the polyvinyl alcohol particles are subjected to and absorb water and thus swell and remain solid for a time sufficient to form a mild abrasive material which is cosmetically suitable for use in cleansing the skin, before becoming completely solubilized in the water.

DETAILED DESCRIPTION OF THE INVENTION

The polymeric material which has been found useful in forming the cosmetically suitable cleansing composition of this invention is a water-soluble polyvinyl alcohol. This synthetic resinous material is commercially available and is normally formed by the hydrolysis of polyvinyl acetate. It is well known that even "completely hydrolyzed" polyvinyl alcohol contains small residue amounts of acetate groups which have not been replaced by the hydroxy group. It has been found that materials which are substantially completely hydrolyzed, that is polyvinyl alcohols having at least 85 percent of the acetate groups replaced by hydroxyl groups,

are most suitable as abrasive materials in skin cleansing preparations. It is further contemplated that in certain instances polyvinyl alcohols which are hydrolyzed to a lesser degree may be found effective within the scope of the invention. The amounts of polyvinyl alcohol found useful ranges from about 0.1 to about 10 per cent of total composition with concentrations of about 1 per cent useful in most instances.

The water-soluble polyvinyl alcohols which are useful in this invention are solid granular materials having densities ranging from about 1.2 to about 1.3 grams per cc. The particle size which has been found useful in imparting the mild abrasive effect in the soap compositions of this invention may range from about 25 to about 300 mesh with the particle size being preferably selected from 50 to 200 mesh. The particle size of the polyvinyl alcohol may be all of uniform size or may be a distribution of particle size within the described range. The type of particle size distribution will depend upon the composition in which these abradants are incorporated and the particular end use of the soap composition. Particles having mesh size within the range described hereinabove have been found particularly suited for subjection to water which allows the particles to first absorb a certain amount of water and thereby swelling the particles. The thus deformed particles yield the particular mild abrasive quality desired.

In carrying out the invention the water-soluble polyvinyl alcohol particles are mixed with various soap base materials which are useful in cleansing human skin. The term "soap base" includes the various surface active materials, such as detergents, or emulsifying ingredients, such as carbonates, borates or phosphates of alkali and alkaline earth metals, fatty acid soaps and the like.

The incorporation of the polyvinyl alcohol material into these soap bases can be accomplished by utilizing standard soap processing procedures. Polyvinyl alcohol granules of a predetermined particle size are added directly into the amalgamator along with the other constituents of the soap batch. After thorough amalgamation, the soap batch can be milled and plodded without any adverse effect to the abrasiveness of the finished soap material. The finished product may take the form of bars, tablets, as well as being ground or cut to form particles such as powders. During the process of forming the mild abrasive cleansing soap of this invention other ingredients normally used in soap preparations may be included. These ingredients include fragrances, perfumes, colorants, creams and the like. The exact type and amount of these additional ingredients will depend upon the particular end use of the cleansing soap and can be chosen by those skilled in the art.

The use of water soluble polyvinyl alcohol granules in soap compositions produces a mild abrasive quality heretofore unobtainable by other materials. When these particles are incorporated in soap bases in the form of bars, the particles are substantially uniformly mixed with the soap base prior to the formation of the finished soap bar. Upon use, the particles which are at the surface of the bar at any one particular time are subjected to water during the process of washing of the skin. Such particles swell under the action of absorption of water causing them to become raised above the surface of the bar and thereby, form a soft abrasive surface in coordination with the soap bar.

3

When the water soluble particles are dislodged from the bar, they are easily dispensed in the wash basin and drains. Even those particles which might become lodged in crevices in such wash basins have no tendency to remain there for long periods of time. The use of additional quantities of water in such wash basins will, under normal action, completely dissolve and remove the spent granules.

The following examples are set forth for the purposes of illustration only and are not to be construed as limitations on the present invention except as set forth in the appended claims. All parts and percentages are by weight unless otherwise indicated.

EXAMPLE I

Cleansing compositions are prepared from a soap base having the following compositions:

Ingredients	Parts
Soap Chips (Sodium Palmitate/Sodium Laurate/Sodium Stearate 1:1:1)	97.1
Mineral soap fragrance A-2273	2.5
Soap solution yellow	0.02
Soap solution blaze orange	0.08
Soap solution white	0.3
Soap solution black	0.002

The above soap base composition is mixed with 0.2, 1.5, and 10 parts of 95 percent hydrolyzed polyvinyl alcohol granules in which more than 90 percent of the polymer particles are retained on screens ranging from between 50 and 200 mesh. The soap base composition and the granular polyvinyl alcohol are placed in an amalgamator and mixed until substantially uniform distribution of the granules is achieved. The cleansing compositions thus formed are then milled and plodded into finished soap bars.

Each of the bars formed has a mild abrasive action on the skin without any adverse effect thereon when used for washing.

EXAMPLE II

One part of 90 percent hydrolyzed polyvinyl alcohol granules which are substantially all retained when passed through sieve screens ranging from 50-150 mesh is mixed with the soap base composition described in Example I above. The soap and polyvinyl alcohol granules are mixed in an amalgamator until there is substantially uniform distribution of the granular material. After thorough amalgamation, the soap batch is then milled and plodded into decorative soap balls. These decorative balls, when used, are found to have a mild abrasive action without being harsh to the skin of the user.

4

EXAMPLE III

A powdered hand cleansing composition is prepared having the following ingredients:

Ingredients	Parts
Dry Yellow Powder Soap (92% c.p.s.; S.N. = 210; titre = 30°C)	85
Tri-sodium Phosphate (tech. grade, powdered)	7
Polyvinyl alcohol (85% hydrolyzed 200 mesh)	8

The composition is found to have a mild abrasive quality which effectively removes foreign matter from the hands of the user.

EXAMPLE IV

A powdered detergent base of the following ingredients:

Soap (90% c.p.s.; titre = 30°C)	15
Sodium Bicarbonate	30
Sodium Metasilicate	5
Trisodium Phosphate	10
Tetrasodium Phosphate	40

is mixed with 10 parts of 85 percent hydrolyzed polyvinyl alcohol to yield a composition having a mild abrasive action useful in removing foreign matter from the material being cleaned without injuring the material.

It will be understood that it is intended to cover all changes and modifications of the examples of the invention herein chosen for the purpose of illustration which do not constitute departures from the spirit and scope of the invention.

What is claimed is:

1. A mildly abrasive cleansing composition comprising a substantially uniform dispersion of particles of a soap base and from about 0.1 to about 10 percent by weight, based on the weight of the composition, of solid particles of a water-soluble polyvinyl alcohol, said polyvinyl alcohol is at least 85 percent hydrolyzed.

2. The cleansing composition of claim 1 wherein the composition is in the form of a bar of a soap base material and particles of a water-soluble polyvinyl alcohol substantially uniformly dispersed therein.

3. The cleansing composition of claim 1 wherein the polyvinyl alcohol is in particle sizes ranging from 50 mesh to 200 mesh.

4. The cleansing composition of claim 1 wherein the particles of polyvinyl alcohol are about 1 percent of the total composition.

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