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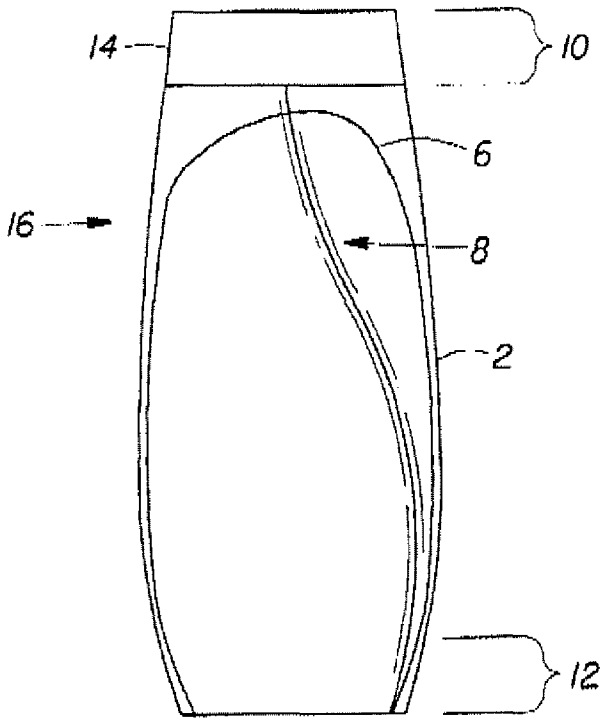
(54) Title: A CONTAINER COMPRISING AN IN-MOLD LABEL POSITIONED PROXIMATE TO A SURFACE TOPOGRAPHY



(57) Abstract: A container for liquid compositions including a reservoir including a liquid composition a surface topography and an in-mold label positioned proximate to the surface topography to improve the resilience of the container. The surface topography is selected from the group consisting of ridges, valleys, grooves, dimples, depressions, bumps, convexity, concavity, ribs, protrusions, curves, raised surfaces or other surface topography. The in-mold label has a thickness of at least 4.5 mils; wherein the in-mold label is made from a material selected selected from the group consisting of polyethylene, copolymers of polyethyene, polypropylene, copolymers of polypropylene, nylon, polyester, copolymers of polyester, polylactic acid, cellophane, polyvinyl chloride, ionomers, ethylene-acrylic acid copolymers, metallocene polyethylene, metallocene polypropylene, and mixtures thereof.

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A CONTAINER COMPRISING AN IN-MOLD LABEL POSITIONED PROXIMATE TO A SURFACE TOPOGRAPHY

FIELD OF THE INVENTION

The present invention relates to a container for liquid compositions comprising a surface topography, a reservoir comprising a liquid composition and an in-mold label positioned proximate to the surface topography thereby increasing the resilience of the container.

BACKGROUND OF THE INVENTION

Liquid composition, such as shampoos, conditioners, bodywash, in-shower moisturizers, lotions, detergents, toothpaste, ketchup and the like are commonly packaged in blow molded containers. Consumers desire a container from which it is easy to dispense the contents. For squeezable containers, dispensing is effected by the geometry of the container, orientation (e.g., inverted containers also known as "tottles"), material, orifice design and thickness of the container. In the case of squeezable containers, a high degree of resilience is desirable as consumers often need to squeeze the container several times to dispense enough product. An increase in thickness of the squeezable wall may result in an increase of the resilience, and said wall may reform its shape quicker. However users typically do not like containers with thick plastic walls, as the containers can be harder to squeeze. These containers may also be more expensive to manufacture as more material is required to form the wall. Labels are commonly comprised on these containers for decoration purposes and to provide information to the user, such as the composition's formula, or the method of use. Labels also may improve the intrinsic properties of containers, such as the deformation characteristics and restorative capability after squeezing.

One type of label that is used is an in-mold label. The most common process for in-mold labeling is blow molding. In-mold labeling during production of containers by blow molding is known in the prior art. In this process, a label is laid in the opened blow mold, usually by a robot, in such a way that the printed outside of the label is in contact with the mold wall, and the unprinted inside faces the blow molding to be shaped. During introduction of the tubular melt and shaping of the parison by the air pressure, the still- molten surface of the polymer

composition comes into close contact with the label and bonds thereto to give a label ed container.

In this labeling process, it must be ensured that the label lies against the mold wall in a flat and fold-free manner. This is achieved either by means of vacuum applied to fine air-removal perforations in such a way that the perforations are substantially sealed by the label , or by means of electrostatic forces between the electrostatically charged label and the earthed mold.

In this production process, the label is either, particularly in the case of simple in-label shapes, supplied in roll form and cut to size at the blow-molding machine ("cut in place") or, in the case of more complex label shapes, cut to size in advance and away from the blow-molding machine, stacked and later segregated from the stack at the blow-molding machine (cut & stack process) and introduced individually into the respective blow mold.

Films made from thermoplastics have recently increasingly been used for the in-mold labeling of containers. The films which are suitable for a use of this type have to have a selected property profile in order to ensure that the in-mold label 6 and mold nestle against one another in a flat and bubble-free manner and for the label to properly bond to the container. Known labels result in bubbles and wrinkles if there is surface texture present such as a ridge on the face of the container. Bubbles and other optical defects occur more often in containers that have surface topographies with high degree of curvature and when the labels are thinner than 4.5 mils. However, it is often desired to decorate such texturized or highly curved surfaces to enhance the container's appeal to consumers and to direct attention to a particular feature such as a logo, version name, and the like. This is usually achieved through a post-molding secondary decoration step such as silk screening, applying a sticker, pad printing, etc., which results in increased cost. It has now been found that the use of a thick film allows the labeling of surface textures such as a ridge and of highly curved areas without resulting in bubbles, wrinkles or any other optical defects as occurs with known labels. It also has been found that a thick label helps to increase the resilience of the container allowing the wall of the container to reform its shape quicker and allowing its contents to be more easily dispensed. It also helps to reduce material fatigue caused by repeated squeezing of the container wall and which can lead to permanent deformation of said wall making the container harder to squeeze. The object of the present invention was to provide an inexpensive method of decorating highly curved or texturized surfaces through an in-mold label that also helps to improve the resilience of a container

comprising a liquid composition. In particular, it should be possible to apply the film as a bubble-free in-mold label to curved bodies, including those having certain surface topographies and without creating wrinkles or any other optical defects.

The object on which the invention is achieved is by the use of a film comprising at least one layer selected from the group consisting of polyethylene, copolymers of polyethylene, polypropylene, copolymers of polypropylene, nylon, polyester, copolymers of polyester, polylactic acid, cellophane, polyvinyl chloride, ionomers, ethylene-acrylic acid copolymers, metallocene polyethylene, metallocene polypropylene, and mixtures thereof having a thickness of at least 4.5 mils.

SUMMARY OF THE INVENTION

The present invention is directed to a container for liquid compositions comprising a reservoir comprising a liquid composition, a surface topography, and an in-mold label positioned proximate to the surface topography. The surface topography selected from the group consisting of ridges, valleys, a grooves, dimples, depressions, bumps, convexity, concavity, ribs, protrusions, curves, raised surfaces or other surface topography. The in-mold label has a thickness of at least 4.5 mils. The in-mold label is comprised of a material selected from the group consisting of polyethylene, copolymers of polyethyene, polypropylene, copolymers of polypropylene, nylon, polyester, copolymers of polyester, polylactic acid, cellophane, polyvinyl chloride, ionomers, ethylene-acrylic acid copolymers, metallocene polyethylene, metallocene polypropylene, and mixtures thereof. The present invention also includes a method of increasing resiliency in containers for liquid compositions.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 illustrates a perspective view of the container of the present invention is a bottle.

FIG. 2 illustrates a perspective view of the container of the present invention is a tottle.

DETAILED DESCRIPTION OF THE INVENTION

The term "ambient conditions" as used herein, unless otherwise specified, refers to surrounding conditions at one (1) atmosphere of pressure, 50% relative humidity, and 25°C.

The term "bottle" as used herein, is a hollow rigid or semi-rigid container having a comparatively narrow dispensing end (neck or mouth). The dispensing end (neck or mouth) is typically the end where the bottle's contents is filled into and dispensed from.

The term "liquid composition" as used herein, unless otherwise specified, refers to the compositions of the present invention, wherein the compositions are intended to include, but are not limited to, compositions for topical application to the skin, hair, teeth, body, surfaces, and fabric fibers. Such compositions can include, but are not limited to, shampoos, conditioners, tooth cleansers, hair styling products, cleaners, soaps, cosmetics, foundations, antiperspirants, deodorants, lotions, creams, ointments, kitchen and bathroom cleansers, floor cleansers, dishwashing liquid, fabric softener, laundry detergent, fabric freshener, snacks, beverages, combinations thereof, and the like.

The term "marbling" as used herein refers to a striped design with a veined and/or mottled appearance similar to marble.

The term "phase" as used herein refers to a homogeneous, physically distinct, and mechanically separable portion of matter present in a non-homogeneous physical-chemical system. In some embodiments, the phases herein are compositions with different colors. In some embodiments, the phases comprise the same chemical compositions but with different colorants.

The term "personal care composition" as used herein, unless otherwise specified, refers to the compositions of the present invention, wherein the compositions are intended to include compositions for topical application to the skin or hair. Such personal care compositions can include, but are not limited to, shampoos, conditioners, hair styling products, cleansers, soaps, cosmetics, foundations, anti-perspirants, deodorants, lotions, creams, ointments, combinations thereof, and the like.

The term "stripe" as used herein means that each phase present in the composition occupies separate but distinct physical spaces inside the package in which it is stored, but are in direct contact with one another. In one preferred embodiment of the present invention, a personal care composition comprises at least two phases that are present within the container as distinct layers or "stripes." The stripes may be relatively uniform and even across the dimension of the package. Alternatively the layers may be uneven, i.e. wavy, or may be non-uniform in dimension. The stripes do not necessarily extend across the entire dimension of the package. The "stripe' can comprise various geometric patterns, various colors and, or glitter or

pearlescence, providing that the concentration of said alternative forms visually distinct bands or regions.

The term "surface topography", as used herein, selected from the group consisting of ridges, valleys, a grooves, dimples, depressions, bumps, convexity, concavity, ribs, protrusions, curves, raised surfaces or other surface topography.

As used herein "tottle" refers to a bottle which rests on neck or mouth which its contents are filled in and dispensed from, but it is also the end upon which the bottle is intended to rest or sit upon (e.g., the bottle's base) for storage by the consumer and/or for display on the store shelf (this bottle is referred to herein as a "tottle"). Typically, the closure on a tottle is flat or concave, such that the tottle, when stored, rests on the closure. In particular embodiments, the closure can be, for example, a cap, flip-top, screw-on, screw-on flip-top cap, etc.

The term "visually distinctive" or "visually distinct" as used herein describes compositions in the package or upon being dispensed that display visually different phases. These different phases are either distinctively separate or partially mixed as long as the multiple phase composition remains visible to the naked eye.

I. Container

The present invention is directed towards a container 2 for compositions as shown in FIG. 1 and FIG. 2.

Any suitable container 2 can be used herein. The container has a dispensing end 10 and a non-dispensing end 12. The dispensing end has a closure 14. In one embodiment, shown in FIG, 1, the container 2 is a bottle 16 with a flat closure 14. In another embodiment, shown in FIG. 2 the container 2 is a tottle 18.

In a specific embodiment, a clear or opaque container 2 is used. For instance, in a particular embodiment, the container 2 is made from a polyolefin, such as polypropylene, polyethylene (e.g., linear low density, low density, medium density, high density, copolymers such as ethylene, vinyl, and acetate), polyethylene terephthalate and co-polymers, and nylon.

In one embodiment, the container 2 is a bottle 16 that is filled from the dispensing end 10. Typically, the closure 14 on a tottle 18 is flat or concave, such that the tottle, when stored, rests on the closure. In particular embodiments, the closure 14 can be, for example, a cap, flip-top, screw-on, screw-on flip-top cap, , etc.

In particular embodiments, a tottle 18 can be a preferred container 2. If a tottle 18 is used, the personal care composition can be stored with the end from which it was filled facing downward. This avoids the need to tip the container 2 over to dispense product upon each usage by the consumer, thus eliminating the movement of air bubble(s) through the length of the product in the package upon each usage occasion by the consumer. Movement of air bubble(s) through the length of the product is undesirable from an aesthetic standpoint, as this can disrupt the attractive appearance of a product having visually distinct phases. This loss of product attractiveness undesirably detracts from the consumer's enjoyment of the product.

In yet another embodiment, the container 2 is a bottle16 that can stand on either end in an upright position.

In either configuration shown FIG. 1 and FIG. 2, the container 2 comprises a reservoir 4 containing a liquid composition and an in-mold label 6. The in-mold label 6 has a thickness of at least 4.5 mils; the in-mold label 6 comprising a film selected from the group of polyethylene, copolymers of polyethylene, polypropylene, copolymers of polypropylene, nylon, polyester, copolymers of polyester, polylactic acid, cellophane, polyvinyl chloride, ionomers, ethylene-acrylic acid copolymers, metallocene polyethylene, metallocene polypropylene, and mixtures thereof. Types of polyethylenes include high density polyethylene (HDPE), medium density polyethylene (MDPE), low density polyethylene (LDPE), linear low density polyethylene (LLDPE). Copolymers of polyethylene include polyethylene copolymers such as ethylene vinyl acetate (EVA) or ethylene.

The in-mold labeling process consists of placing an in-mold label 6 in an open mold in which the in-mold label 6 is held in place by vacuum, electrostatic or other means. The mold is closed and the molten plastic is forced into the mold. In-mold labeling can be done using injection or blow molding, however blow molding is the preferred process. In blow molding, air is introduced into the mold cavity which forces the molten resin in contact with the in-mold label 6 which fuses to the container 2.

There are several advantages to in-mold labeling. In-mold labeling produces excellent aesthetics as the in-mold label 6 fuses with the container 2 during the molding process. With a clear in-mold label 6, the appearance can often be similar to printing on the container 2. Printing onto a curved surface can be very difficult and requires an additional step. Printing onto a plastic

surface can result in scuffing or smearing which is undesirable. With in-mold labeling, no additional printing or labeling step is required thus making it a very efficient process.

Blow molded containers 2 can be made from polyethylene and polyethylene copolymers including high density polyethylene (HDPE), medium density polyethylene (MDPE), low density polyethylene (LDPE), linear low density polyethylene (LLDPE), polyamide resins, ionomer resins, polyvinylchloride, ethylene vinyl acetate (EVA), polyester (PET) and polyester copolymers, polypropylene (PP and mixtures thereof. A greater improvement in resilience is observed with materials that are relatively less stiff such as polyethylene and polyethylene copolymers.

One limitation however with in-mold labeling is that it can be difficult for an in-mold label 6 to be placed over a surface topography with high curvature such as a ridge or valley as air can become trapped underneath the in-mold label 6 which is not desirable for consumers especially when a "no-label" look is desired. Also, the surface topography can make the label material fold on itself upon blowing of the container thereby creating an undesirable wrinkle or crease. The present invention overcomes these limitations by using a thick in-mold label 6 that is capable of being applied in-mold without entrapment of air and which is not as susceptible to wrinkling or creasing.

Typically in-mold labels 6 are placed on containers 2 with smooth surfaces. It was previously difficult to use in-mold labels 6 in on a surface topography 20 or especially if that surface topography comprises a transition from a concavity to a convexity 22 or a transition from a convexity to a concavity 22 on the container 2. The present invention is directed towards an in-mold label 6 of sufficient thickness that is placed over a surface topography.

The containers 2 of the present invention may be any shape known in the art. Most preferred are generally oval containers. The containers 2 used in one of the embodiments of the present invention have at least one surface topography 20 selected from the group consisting of ridges, valleys, grooves, dimples, depressions, bumps, convexity, concavity, ribs, protrusions, curves, raised surfaces or other surface topography. The surface topography 20 on the container 2 is typically positioned proximate to or on or covered by the in-mold label 6.

The in-mold label 6 is at least 4.5 mils in thickness. The in-mold label 6 has a thickness ranging from about 4.5 mils to about 40 mils, preferably from about 6 mils to 12 mils, even more preferably from about 8 mils to 12 mils, even more preferably from about 10 mils to about12

mils, even more preferably from about 8 mils to 20 mils; with a maximum of 40 mils. Furthermore a thick in-mold label 6 provides additional benefits in terms of resistance to squeezing, as the fused material becomes a structural part of the container thus improving its resilience and allowing for easier dispensing of fluids. Furthermore a thick in-mold label 6 is better able to provide insulation between the molten resin and the mold surface, thus allowing for temperature sensitive inks and decoration to be used that could not otherwise be used. A thin in-mold label 6 may result in wrinkling or creasing which is undesirable. The in-mold label 6 may be made by techniques known in the art. The primary process is film extrusion. The in-mold label 6 may consist of one layer or multiple layers. A common process for producing in-mold label 6 s is co extrusion whereby the heat seal layer consists of a resin with a lower melting point than the printing surface in order to avoid any distortion. Another common process for producing in-mold labels 6 is by laminating two or more separate films with an adhesive or tie layer between each film. The in-mold label 6 may contain additional layers of paper or foil.

The in-mold label 6 is pre-printed/decorated before being placed in the mold using processes known in the art. Decoration may include foil, inks, paper, holograms or other techniques. Secondary labels such as coupons or instructions could also be attached. The in-mold label 6 of the present invention may be multilayered having an inner layer and at least one outer layer. In some embodiments, the inner layer and the outer layer may have different melting points. In some embodiments, the inner layer may have a lower melting point that the outer layer. The inner layer of the in-mold label is preferably heat sealable.

The film according to the invention can have three layers and can comprise co extruded layers including the base layer and at least one top layer on both sides. If desired, two-layered, four-layered, five-layered or more layered embodiments are also possible. The film is preferably comprised of a polyolefin, preferably a propylene polymer, and optionally fillers and further additives in effective amounts in each case.

In some preferred embodiments, the film material is a polypropylene/polyethylene co-extruded film with an EVA adhesive layer. In these embodiments, propylene polymers comprise about 70% by weight of the material and 30% by weight of the material is polyethylene.

Preferred polyolefins are propylene polymers. These propylene polymers comprise from 90 to 100% by weight, preferably from 95 to 100% by weight, in particular from 98 to 100% by weight, of propylene units, and have a melting point of 120°C. or above, preferably from 150 to

170°C., Isotactic propylene homopolymer having an atactic content of 15% by weight or less, copolymers of ethylene and propylene having an ethylene content of 5% by weight or less, copolymers of propylene with C4 -C8 - olefins having an olefin content of 5% by weight or less, terpolymers of propylene, ethylene and butylene having an ethylene content of 10% by weight or less and having a butylene content of 15% by weight or less are preferred propylene polymers for the base layer, with isotactic propylene homopolymer being particularly preferred. The stated percentages by weight are based on the respective polymer.

Also suitable is a mixture of said propylene homopolymers and/or copolymers and/or terpolymers with other polyolefins, in particular made from monomers having from 2 to 6 carbon atoms, where the mixture comprises at least 50% by weight, in particular at least 75% by weight, of propylene polymer.

Suitable other polyolefins in the polymer mixture are polyethylenes, in particular HDPE, MDPE, LDPE, VLDPE and LLDPE, where the proportion of these polyolefins is in each case not in excess of 15% by weight, based on the polymer mixture.

The inner surface, inner layer that comes into contact with the molten resin must be capable of forming a seal with the container 2 such that it does not easily come off. The inner layer should be capable of melting at the temperature of the molten resin that is used to form the container 2. Preferably, the inner layer should be a heat seal layer. The inner layer can be an adhesive layer. The inner layer is preferably comprised of EVA or LDPE.

The in-mold label 6 is pre-printed/decorated before being placed in the mold using processes known in the art. Decoration may include foil, inks, paper, holograms or other techniques. Secondary labels such as coupons or instructions could also be attached.

The outer layer of the multilayered film generally comprises at least 70% by weight, preferably from 75 to less than 100% by weight, in particular from 90 to 98% by weight, of a propylene polymer and in general antiblocking agents and stabilizers and, if desired, further conventional additives, such as lubricants, for example fatty acid amides or siloxanes, in effective amounts in each case. Preference is given to embodiments of the outer layer which comprise fatty acid amides. The above data in % by weight are based on the weight of the top layer.

The propylene polymer of the outer layer is preferably a copolymer of propylene and ethylene or propylene and butylene or propylene and another olefin having from 5 to 10 carbon atoms. Also suitable for the purposes of the invention are terpolymers of ethylene and propylene

and butylene or ethylene and propylene and another olefin having from 5 to 10 carbon atoms. It is also possible to employ mixtures or blends of two or more of said copolymers and terpolymers.

For the outer layer, preference is given to ethylene-propylene copolymers and ethylene-propylenebutylene terpolymers, in particular random ethylene-propylene copolymers having an ethylene content of from 2 to 10% by weight, preferably from 5 to 8% by weight, or random ethylene- propylene-1-butylene terpolymers having an ethylene content of from 1 to 10% by weight, preferably from 2 to 6% by weight, and a 1-butylene content of from 3 to 20% by weight, preferably from 8 to 10% by weight, in each case based on the weight of the copolymer or terpolymer.

Frequently encountered embodiments of PP, OPP or BOPP films are corona- or flame-treated on one side, preferably on the outer layer, in order to anchor printing inks, metal layers or adhesives to be applied.

The opposite, inner layer usually remains untreated. On laying in the blow-molding machine in accordance with the cut & stack process, the in-mold label 6 film according to the invention proved to be particularly simple and reliable to segregate in an embodiment with corona- or flame- pretreatment on both sides.

The in-mold label thickness is at least 4.5 mils. In a preferred embodiment the in-mold label thickness is 7.75 mils. In a preferred embodiment the film used to make the label is FasClear® 8SFC in-mold film from Avery Dennison.

II. Method

The in-mold labeling process consists of placing an in-mold label 6 in an open mold in which the in-mold label 6 is held in place by vacuum, electrostatic or other means. The mold is closed and the molten plastic is forced into the mold. In-mold labeling can be done using injection or blow molding, however blow molding is the preferred process. In blow molding, air is introduced into the mold cavity which forces the molten resin in contact with the in-mold label 6 which fuses to the container 2. Preferably, the container 2 of the present invention is typically formed by blow-molding.

The present invention also comprises a method of increasing resiliency of a container for liquid compositions. The method comprises manufacturing a container for a liquid composition comprising a reservoir comprising a liquid composition, a surface topography selected from the

group consisting of ridges, valleys, a grooves, dimples, depressions, bumps, convexity, concavity, ribs, protrusions, curves, raised surfaces or other surface topography. The method comprises positioning an in-mold label proximate to said surface topography. The in-mold label has a thickness of at least 4.5 mils. The in-mold label is comprised of a material selected from the group consisting of polyethylene, copolymers of polyethylene, polypropylene, copolymers of polypropylene, nylon, polyester, copolymers of polyester, polylactic acid, cellophane, polyvinyl chloride, ionomers, ethylene-acrylic acid copolymers, metallocene polyethylene, metallocene polypropylene, and mixtures thereof.

III. Liquid Composition

The liquid composition of the present invention can be selected from the group consisting of personal care composition, cosmetic compositions, detergent compositions, medicaments, and foodstuffs.

Any suitable liquid compositions can be used in the practice of the invention herein. For instance, suitable liquid compositions can include shampoos, conditioners, foundations, washes, soaps, and the like. Preferably, the liquid compositions used to in making the personal care compositions herein have substantially the same density and/or rheology. Suitable examples of compositions that can be used herein include, but are not limited to, U.S. Pat No. 4,159,028, issued June 26, 1979, in the name of Barker et al.: U.S. Pat. No. 4,335,103, issued June 15, 1982, in the name of Barker et al.; U.S. Pat. No. 6,245,344, issued June 12, 2001 in the name of Thibiant et al.; US Pat. No. 6,367,519, issued April 9, 2002, in the name of Thibiant et al.; US Pat. No. 6,516,838, issued February 11, 2003, in the name of Thibiant et al.

In a preferred embodiment, at least two liquid compositions are used that are physically distinct, preferably visually distinct. In a particular embodiment, the visually distinct phases are of a different color. For instance, one or more phases can comprise a dye, pigment, pearlescent agent, lake, coloring, or mixtures thereof. Colorants useful in the present invention can be, for example, selected from the group consisting of Red 30 Low Iron, FD&C Red 40 AL Lake, D&C Red Lake Blend of Lake 27 & Lake 30, FD&C Yellow 5 Al Lake, FD&C Yellow 6 Al Lake, FD&C Yellow 5 Lake, FD&C Blue #1 AL Lake, Kowet Titanium Dioxide, D&C Red 30 Talc Lake, D&C Red 6 Barium Lake, D&C Red 7 Calcium Lake, D&C Red 34 Calcium Lake, D&C Red 30 AL lake, D&C Red 27 AL lake, D&C Yellow 10 AL lake, D&C Red 21 AL Lake,

Yellow Iron Oxide, D&C Red 30 Lake, Octocir Yellow 6 AL Lake, Octocir Yellow 5 AL Lake, D&C Red 28 Lake, D&C Orange 5 Zirc Al Lake, Cos Red Oxide BC, Cos Iron Oxide Red BC, Cos Iron oxide Black BC, Cos Iron Oxide Yellow, Cos Iron Oxide Brown, Cos Iron Oxide Yellow BC, Euroxide Red Unsteril, Euroxide Black Unsteril, Euroxide Yellow Steril, Euroxide Black Steril, Euroxide Red, Euroxide Black, Hydrophobic Euroxide Black, Hydrophobic Euroxide Yellow, Hydrophobic Euroxide Red, D&C Yellow 6 Lake, D&C Yellow 5 Zr Lake, and mixtures thereof.

In one embodiment, the personal care composition comprises at least two physically distinct phases.

The dimensions and values disclosed herein are not to be understood as being strictly limited to the exact numerical values recited. Instead, unless otherwise specified, each such dimension is intended to mean both the recited value and a functionally equivalent range surrounding that value. For example, a dimension disclosed as "40 mm" is intended to mean "about 40 mm".

All documents cited in the Detailed Description of the Invention are, in relevant part, incorporated herein by reference; the citation of any document is not to be construed as an admission that it is prior art with respect to the present invention. To the extent that any meaning or definition of a term in this document conflicts with any meaning or definition of the same term in a document incorporated by reference, the meaning or definition assigned to that term in this document shall govern.

While particular embodiments of the present invention have been illustrated and described, it would be obvious to those skilled in the art that various other changes and modifications can be made without departing from the spirit and scope of the invention. It is therefore intended to cover in the appended claims all such changes and modifications that are within the scope of this invention.

CLAIMS

What is claimed is:

1. An container for liquid compositions, characterized in that said container comprises
a reservoir comprising said liquid composition, said liquid composition being preferably a personal care composition;
a surface topography comprising ridges, valleys, grooves, dimples, depressions, bumps, convexity, concavity, ribs, protrusions, curves, raised surfaces and/or other surface topographies;
an in-mold label positioned proximate to said surface topography;
optionally, a closure; and
wherein said in-mold label has a thickness of at least 114.3 microns (4.5 mils); and
wherein said in-mold label is made of a material comprising polyethylene, copolymers of polyethyene, polypropylene, copolymers of polypropylene, nylon, polyester, copolymers of polyester, polylactic acid, cellophane, polyvinyl chloride, ionomers, ethylene-acrylic acid copolymers, metallocene polyethylene, metallocene polypropylene, or mixtures thereof.

2. The container according to claim 1, wherein said surface topography comprises a transition from a concavity to convexity.

3. The container according to any one of the preceding claims, wherein said in-mold label has a thickness of from 114.3 microns (4.5 mils) to 1016 microns (40 mils), preferably from 203.2 microns (8 mils) to 304.8 microns (12 mils).

4. The container according to any one of the preceding claims, wherein the in-mold label comprises a mixture of polypropylene, polyethylene and copolymers of polytheylene, said copolymer of polyethylene being preferably ethylene vinyl acetate.

5. The container according to any one of the preceding claims, wherein said in-mold label comprises an outer layer and an inner layer.

6. The container according to claim 5, wherein said inner layer has a lower melting point that said outer layer.

7. The container according to claim 5, wherein said inner layer is heat sealable.

8. The container according to claim 5, wherein said inner layer is adhesive.

9. The container according to any one of the preceding claims, wherein the container is a tottle.

10. The container according to any one of the preceding claims, wherein the container is comprised of polyethylene.

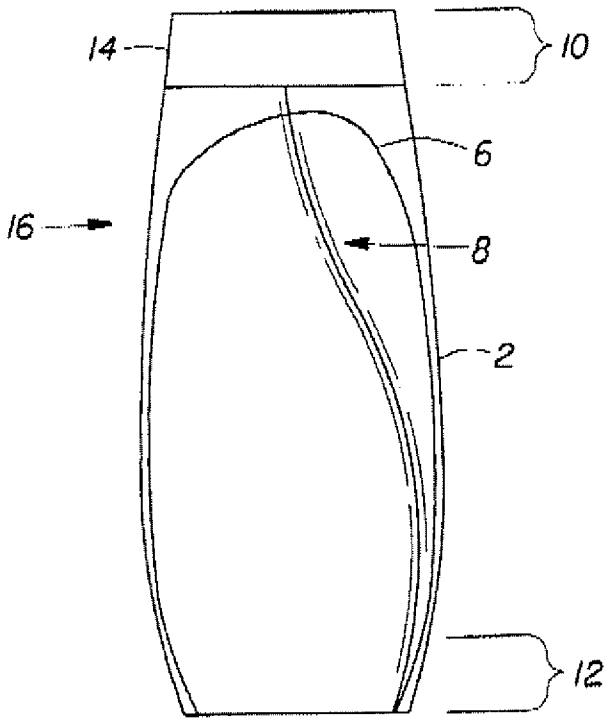

Fig. 1

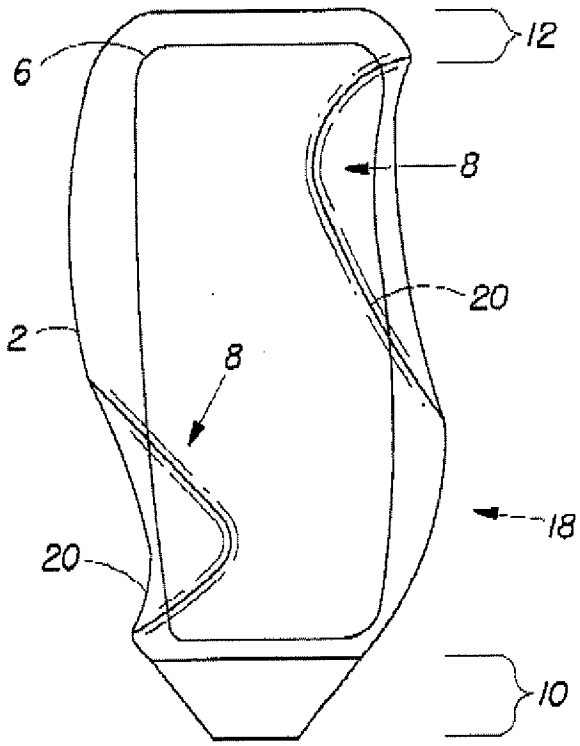

Fig. 2